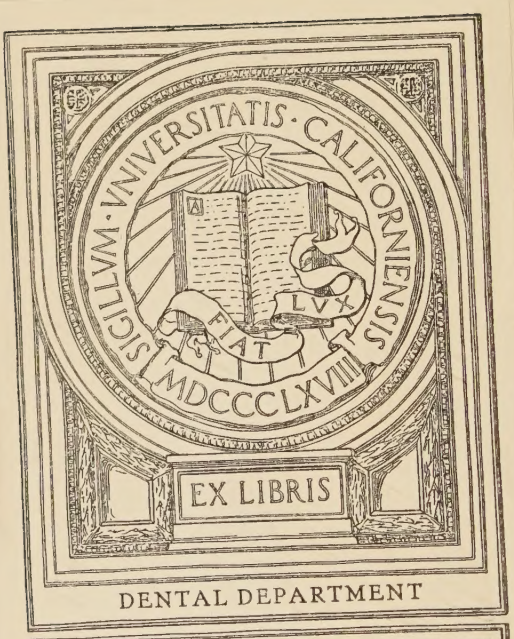

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MENTAL ASPECTS OF STAMMERING

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of
STAMMERING

by

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CONTENTS

PREFACE ix

Part I

CHAPTER I

STAMMERING 3
Causes of stammering 3
Manifestations of stammering 6
Stammering a mental difficulty 9
Mental attitudes 10
Excitement 11
Variability of stammering 12
Speech-aids 12
Influences that increase stammering 13
Influences that diminish stammering 14
Stammering an impediment of thought 15

CHAPTER II

THE NATURE OF THOUGHT 17
Consciousness 17
Sensation 21
Mental images 22
Association 23
Conditioned reflex; substituted stimulus 24
Types of imagery 27
The concept 28
The verbal image 30

CHAPTER III

THE PSYCHONEUROSES 31
Swallowing 31

Stammering in breathing 33
Stammering in walking 34
Face and head stammering 35
Arm stammering 35
Stammering with instruments (piano, violin, typewriter, telegraph) 36
Stammering in writing 37

CHAPTER IV

Recoil 40

Part II

CHAPTER V

Principles of Speech Correction 53
Mental drill 53
Signals 53
Speaking in unison 56
Silent speech 56
Relaxation 57
Slow speech 58
Breathing 58
Gradation of work 59
Merging situations 60

CHAPTER VI

Kindergarten Children 62
Singing nursery rhymes 62
Reciting nursery rhymes 63
Story telling 64
Pictures 69
Language games 71

CHAPTER VII

Grade School Children 79
Reading 79
Silent speech 83

Pictures 85
Spontaneous speech 87
Guessing games 98
Rattling 102
Class work 103

CHAPTER VIII

Adults and High School Students 104
Reading 105
Pictures and cartoons 108
Spontaneous speech 109
Merging situations 113
Electric shock 116
Mirrors and moving pictures 117

CHAPTER IX

The Instructor 118
The class 118
Progression of work 118
Length of course 120
Signals 120
Assistance speech 125
Silent speech 126
Informality 127
Breathing 128
Relaxation 128
Exercises evaluated 129
Practicing words 130
Slow speech 131
Instruction in theory 131
Conferences 132
Approbation 132
Emulation 132
The pupil as leader 133
Help from parents 133
Help from teachers 134

CHAPTER X

The Parent 135

CHAPTER XI

The Pupil Himself 139
Emotion 139
Verbal thought 139
Signals 140
Thought stops 141
Visual coördination 141
Thought-block 142
Silent speech 142
Synonyms 143
The general health 143

CHAPTER XII

Conclusion 144

Index 147

PREFACE

It is the purpose of this book to present, in brief form, the author's conception of the mental cause of stammering, and to outline the methods of mental training which the author suggests as a remedy for the impediment. These methods are not infallible. They are effectual with children, but less effectual with adults. Nevertheless, they afford adults a large measure of help.

The book is written primarily for school use, but it is also intended for use by the stammerer who must rely on self-training. Although the book deals with a medical and psychological subject the author has avoided technical terms as far as possible, and having the youthful reader constantly in mind has endeavored to present the material of the book in brief and simple form.

In a measure the book is supplementary to the author's previous work, "Stammering and Cognate Defects of Speech,"[1] published in 1913. The present book, however, deals more with therapy, and owing to the simple method of presentation it should prove more useful to the individual stammerer. Also this later volume presents a clearer insight into the prob-

[1] G. E. Stechert and Company, New York and London.

lem of stammering, which the author has attained through additional years of study devoted to the subject.

The methods of speech training described in Chapters VI and VII have been tested in the Denver Public Schools, and the writer expresses his thanks to the school authorities for their coöperation. Especial thanks are due to Miss Mary Willsea and Miss Julia Wright, teachers in the Speech Department, through whose courtesy the coöperation was made effective.

C. S. Bluemel.

Denver, Colorado.

PART I

STAMMERING—AN IMPEDIMENT OF THOUGHT

CHAPTER I

Stammering

Stammering is to be considered in this book as an impediment of thought and not as an impediment of speech. We shall therefore concern ourselves chiefly with the mental aspects of speech. It is necessary though at the outset to review some of the general characteristics of stammering, and we will therefore make a brief survey of our subject before engaging upon a study of mental speech.

In this preliminary review we consider first the causes of stammering.

CAUSES OF STAMMERING

There are numerous causes of stammering. Some of the commonest immediate causes are fright, imitation of stammering, association with stammerers, language difficulties, and illness. These causes are illustrated by the following cases:

Fright. Ben began to stammer at 6 years of age, when he was frightened by a horse.

Clyde R., a young army recruit, stammered after being "bawled out" by an officer.

Bartlett B., a high school student, began to stam-

mer after he was severely reprimanded by the principal.

Imitation of Stammering. When Stanley was 5 years old, he used to imitate a boy who stammered. In a few weeks he became a stammerer himself.

When Martha was 10 years old, she mocked a girl who stammered in Bible class. After mocking her two or three times, Martha became a stammerer.

Association with Stammerers. During the war Howard R. was hospitalized for shell shock. In the next bed was a boy who stammered. In two weeks Howard himself stammered.

Lillian B., aged 12, often visited a girl whose mother stammered. In the course of a year Lillian herself developed a severe impediment.

Freddie is a little boy of 4. His father stammers, likewise his grandfather, who lives in the same house. Freddie has stammered ever since he began to talk.

Language Difficulties. Paul was born in Russia and came to America when he was 7 years old. His stammering commenced when he began to learn the English language.

Edward came to America from Sweden when he was 5. His stammering, which had previously been slight, then became severe.

Charles, a boy of 2, tried one evening to say "Mr. Johnson." He was tired and irritable and the words

were too big. He stammered badly, and the stammering afterward continued.

When Boyd was 3 years old, a maid teased him by trying to make him say "squash." That night he had a convulsion, which was followed by stammering. Stammering has since continued for 40 years.

Stammering is sometimes associated with defective articulation. Walter could not pronounce "r" until he was 8 years old. Helen, who is 11, could not pronounce "d" until a few years ago. She still has difficulty with "sh," and says "sip" instead of "ship."

Stammering after Illness. Bernard began to stammer after typhoid fever; Irwin after scarlet fever. George stammered after his tonsils were taken out.

Unassigned Causes. Often no cause for stammering can be assigned. Frederick W., a young man of 23, began to stammer when he was a baby in his high chair. There was no evident cause for the impediment.

Mrs. M. has stammered ever since she can remember. As a child she was always in a hurry to tell things. She would say "I-I-I-," and get no further.

Jack began to stammer when he was 2 years old. He tried to say "goodbye," but repeated the "g" a number of times. After this, stammering persisted.

Wilbur L. began to stammer when he was 6. The impediment came on gradually, and he does not know what caused it.

Thus we find many supposed causes for stammering, and many instances in which causes cannot be determined. When causes are assigned, there are often discrepancies. This is not surprising, since the parents usually lack training in observation and critical thinking. Mrs. B. believes that Irwin's stammering was caused by scarlet fever; but the stammering was gradual in onset, and it did not begin till several weeks after the illness had termined. Mrs. K. says that George's stammering resulted from a tonsil operation, yet the boy did not begin to stammer until 2 months after the tonsils were removed. However, in spite of discrepancies, it seems that there are several different causes for stammering.

MANIFESTATIONS OF STAMMERING

The manifestations of stammering are so numerous that one might almost say there are as many kinds of stammering as there are stammerers.

Some stammerers show disturbances in breathing, others in vocalizing, others in articulating. Then there are various combinations of these impediments and various types of contortion.

A few cases will exemplify the common types of stammering:

Respiratory Disturbances. August exhausts the breath, and attempts to speak with the lungs empty.

Bartlett fills the lungs before speaking, but does so by sucking the breath loudly through the clenched teeth.

Peter gasps for breath between words.

Alice gasps in the middle of words. "This is my br-other."

Helen makes little gasping sounds at the letters "p" and "h."

Disturbances in Vocalizing. Stanley has difficulty with vowels. If he attempts to say the word "and," the vocal cords shut tightly together.

Jack repeats the "a" in "and," the voice becoming louder with each repetition.

Ivan W. repeats vowel sounds in the middle of words: "I n-o-o-o-oticed this at the st-a-a-a-art."

Clarence is unable to vocalize when the words begin with "h." He emits a stream of air, but no sound follows.

When John stammers, his voice becomes shrill and piping and maintains this unnatural pitch for several sentences.

Disturbances of Articulation. Jimmie repeats whole words. "There-there-there was one monkey in the park. I-I-I- was af'aid of him."

Winston repeats initial consonants. "I am two p-p-p-pounds underweight."

Jack presses the lips tightly together with "p"s and "b"s. "How many p----ounds?"

Harold stammers on the consonant "w." He purses the lips, then waits quietly till he is able to proceed.

Frank S. repeats nasal consonants. "N-n-n-no."

Harry sustains vocalization on nasal consonants. "N------o." His stammering is accompanied by moaning and groaning sounds in the throat.

Stanley's stammering is manifested by abortive movements of the larynx. There is no attempt at articulation.

Lillian makes no visible attempt at speech. Her face flushes, but she remains mute.

Anderson stammers on the first word of a sentence, then speaks the rest of the sentence fluently.

Gerald stammers at any point in the sentence.

Contortion. Stammering is often accompanied by contortion. Ben, for instance, displays quivering movements of the tightly compressed lips.

Martha's stammering is accompanied by twitchings of the facial muscles. These twitchings seem to flicker from place to place.

Helen displays fidgety movements of the hands.

Alice shows restless, writhing movements of the body, which are suggestive of St. Vitus' dance.

Charles blinks the eyes and throws the head back.

Lorenz jerks the head backward, opening the mouth wider with each jerk.

Ivan jerks the head from side to side and rolls the eyes, as though about to engage in an epileptic convulsion.

Combined Symptoms. Many stammerers display a combination of symptoms. Thus there may be contortion associated with respiratory disturbance, or respiratory disturbance combined with difficulty in vocalizing and articulating. Most stammerers manifest groups of symptoms rather than one particular symptom.

Degrees of Severity. Stammering is found in all degrees of severity. One stammerer exhibits nothing but a quiet inward struggle; another displays a choppy and nervous articulation; a third is boisterous and turbulent in his struggle with speech.

STAMMERING A MENTAL DIFFICULTY

These preliminary paragraphs make it clear that stammering does not result from physical causes. There can be no congenital defect of the speech organs when the stammerer speaks fluently for the first several years of his life. There can be no organic defect when stammering results from imitation or association. There can be no physical deformity when any one of several causes—fright, association, imitation—

can produce any type or any combination of types of speech disturbance.

Quite evidently there is a mental factor in stammering, and it is this factor that we propose to examine further.

MENTAL ATTITUDES

Different stammerers have different mental attitudes toward speech. Some are afraid of letters, others of words, and still others of speech itself.

Stammering on Letters. Helen stammers chiefly on the letters "p" and "h."

Gerald stammers on "l" and "f;" sometimes on "k" and hard "g."

Charles has difficulty with "l" and "k." In college he would tremble if he had to say a word beginning with one of these letters.

Sidney stammers on "d" and "t." He used to stammer on "s" and "f."

Stanley stammers chiefly on "s," but his troublesome letters change from time to time. When he stammers on a particular word, the word may prove difficult for several weeks.

Stammering on Words. Maud is afraid of the word "three," but has no other speech difficulty. Sometimes she can say "three," if it comes after "six."

John stammers chiefly on the words "good-bye" and "good night."

Paul has difficulty with a number of words, among which are his name and address.

James B. is afraid of a great many words. He says that he could underline on a page of print every word that would cause him to stammer.

Stammering in Speech. Bertha stammers in speech, but has no fear of particular words or letters. Her chief difficulty is with persons and situations. She is a student nurse and she finds it hard to recite in class.

Conrad stammers in speech, but does not know what words will cause difficulty. He is afraid of situations, such as introducing people.

These three types of stammering—on letters, words, and speech—are not so sharply defined as the foregoing presentation suggests. Some stammerers fear situations as well as words and letters, hence we may find the three groups overlapping.

EXCITEMENT

Excitement exercises a strong influence upon speech. Where stammering is concerned, the effect of excitement is so great that one can scarcely doubt the mental origin of the speech disturbance.

Henry stammers only when excited. He tried to tell his mother that some one had let the air out of his bicycle tires, but he was so overwrought that he could not say a word.

Mildred stammers chiefly with excitement. She says the same word over and over—"I-I-I-" or "what-what-what"—and gets no further.

Joe stammers when he comes in from recess and tries to tell the teacher something.

VARIABILITY OF STAMMERING

With most stammerers the severity of the impediment varies from time to time—a thing one would not expect if the difficulty were purely physical.

James has good days and bad days. Mabel has little trouble for weeks; then the stammering again becomes severe.

In some cases the stammering temporarily disappears. Irwin loses his stammering for days at a time. Bartlett stammered at intervals when he was 9 years old. He was then free from stammering till he was 15, when the impediment returned.

Happily, stammering may also disappear permanently, especially with young children. This fact in itself is evidence that no physical defect of the speech organs exists.

SPEECH-AIDS

The nature and variability of speech-aids points to the mental character of the problem with which we are dealing.

James B. resorts to the use of synonyms. He says facetiously that he has learned the whole dictionary.

Franklin L. frequently spells words he cannot pronounce. Once he could not say "tea," but he was able to spell the word,—"tea -e-a."

Byron C. assists himself by the use of starters and wedges, prefacing and interspersing his conversation with such phrases as "listen," "say," "let's see," "now," "why," etc.

Ivan W. found that he could assist himself by using the passive voice instead of the active voice. He would say, for instance, "I am going to be shaven," instead of "I am going to shave." Unfortunately, this expedient soon lost its efficacy.

In a store, the average stammerer speaks more fluently if he can point to the article he wishes to purchase. He also derives help from handing the storekeeper a written slip, ostensibly carried as a memorandum. There are numerous other speech-aids, some logical in their application, others valuable merely by virtue of autosuggestion.

INFLUENCES THAT INCREASE STAMMERING

With the average stammerer the influence of environment is strong. Thus most stammerers find it difficult to talk to strangers or "superiors."

It is usually difficult for the stammerer to speak before a gathering of people. The youthful stam-

merer, for instance, has trouble in reciting in school. The adult stammerer has difficulty in addressing an audience.

The telephone almost invariably increases the stammerer's difficulty.

INFLUENCES THAT DIMINISH STAMMERING

Still more striking are the circumstances that lessen the stammerer's impediment.

1. Usually the stammerer can speak well when alone. In the privacy of his own room he can carry on a conversation or address an imaginary audience. He can speak fluently into the telephone so long as he does not take up the receiver, or, if he takes up the receiver, so long as he keeps his finger on the hook and makes the procedure an imaginary conversation rather than an actual one.

2. The stammerer usually speaks well when talking to a baby or an animal.

3. The stammerer is usually fluent when speaking in unison with other people. At church he reads the Psalms aloud and recites the Lord's Prayer with the congregation. But if the rest should suddenly become silent, he would be unable to proceed alone.

4. The stammerer can always sing without impediment. Often he lacks a musical ear and does not sing well; nevertheless he sings without stammering.

5. There are still other circumstances under which

the stammerer speaks fluently. Ordinarily he can repeat a word that he has eventually stammered out. As a rule he can pronounce a word that some one speaks for him by way of assistance.

STAMMERING AN IMPEDIMENT OF THOUGHT

This capriciousness of stammering is sufficient evidence in itself to show that the impediment does not result from physical disease of the speech organs, for no physical defect could appear and vanish in this manner in response to external influences. In reality, there is no disturbance in the physical mechanism of speech; the disturbance lies in the mental mechanism.

Stammering is an impediment of thought. The impediment is manifest in speech only because the stammerer attempts to put his thoughts into words. When he avoids "difficult" words, he may escape stammering altogether. Any one listening to him would judge that there were no impediment of speech, but the stammerer knows perfectly well that he is struggling with an impediment of thought. In ordering a meal at a restaurant, he studies the menu to find words that he can say; he makes a choice of words, and not a choice of foods.

By the use of synonyms, circumlocutions, and evasions, the stammerer frequently succeeds in concealing his difficulty altogether. However, in doing so, he follows avenues of escape instead of lines of

thought. He is often compelled to say "No" instead of "Yes;" and at times, instead of speaking, he must perforce remain silent.

Stammering, then, is a disturbance of thought, and it manifests itself in speech merely because speech reproduces thought. Speech follows the thought pattern precisely. If, in counting aloud from 1 to 6, I omit the 5 (1-2-3-4---6), it is because I make the omission in my mind. If, on the contrary, I repeat the 5 (1-2-3-4-5-5-6), it is because I repeat the number in my mind.

When Jimmie says "There-there-there- was one monkey in the park," he repeats the "there" in speech because he repeats it in thought. The same thing is true when Winston says that he is two "p-p-p-pounds" underweight. He repeats the "p" in his mind, and therefore repeats it in speech.

We speak as we think. We speak English because we think English. We could not speak English while thinking Chinese. If we think nothing at all, we say nothing at all. A person who is born deaf never hears words, hence he never thinks in words and never says them. He is dumb because he is deaf.

Thought, then, is the basis of speech, and it becomes necessary for us to inquire further into the nature of thought in order to study the mental disturbance that leads to stammering.

CHAPTER II

The Nature of Thought

CONSCIOUSNESS

Consciousness is indispensable to thought. For practical purposes we can say that consciousness begins when we are born, and ends when we die. This does not mean, however, that consciousness is uniform throughout life. There are varying degrees of consciousness. Consciousness is largely abolished when we sleep; it is abolished when one faints.

One may become abstracted, and not see or hear what is going on about him. Such a disturbance of consciousness is normal, but there are other changes of consciousness that are abnormal. A patient who has epilepsy may be subject to "lapses"—little breaks in the continuity of consciousness. While he is talking, consciousness suddenly disappears. He stops abruptly; and then as consciousness returns, he may resume the sentence where it was interrupted. Such loss of consciousness is often partial, rather than complete, the patient retaining a certain measure of control of his actions. He may continue walking, even though he stops talking; and if he should come to a standstill, he may not fall to the ground, as he would with total loss of consciousness.

Tom was subject to "minor epilepsy." Once he had a spell when the class was marching from the playground into the school. The line turned to the left and entered the building, but Tom kept marching forward. Jane had a spell when she was crossing the room with a bowl of goldfish. She stopped, swayed a little, spilt some water, then pulled herself together, and continued her errand.

These disturbances consist of partial obliteration of every field of consciousness—hearing, seeing, feeling, etc.; the whole light of consciousness is dimmed. But there are other disturbances in which only one particular field of consciousness is affected while the rest of the mind remains clear. Hysterical blindness causes loss of vision, but does not disturb the other senses. Hysterical deafness impairs the hearing, but does not affect other functions of the mind. Hysterical anesthesia causes an arm or leg to lose its sense of feeling, but the other senses are not involved. The conception of such disturbances will be made clearer by the recital of a few cases:

Mrs. C. was in bed with a nervous illness. When she looked at a picture on the wall, its outline would slowly disappear, and everything would get dark.

A workman was startled by a blinding flash of light from an electric welder. The flash did not injure him, and he continued at his work for the rest of the afternoon. That evening, when his wife

turned on the electric light, he suddenly became blind. He remained blind in the right eye for 2 months, and in the left eye for $3\frac{1}{2}$ months.

A young man says that he has spells in which everything gets dark, so that he can scarcely see. This happens two or three times a day, the "blindness" lasting each time about a minute.

A woman who is subject to all kinds of nervous symptoms complains that she sometimes gets deaf for several minutes at a time. The deafness is especially marked in the right ear.

A seamstress, who had been sewing all day, rested her arm on the back of a chair. The arm became numb and partially paralyzed, and remained so for several days.

A soldier was badly frightened during an air raid. He was not wounded, but as a result of the shock he lost his voice, and at the same time lost the sense of feeling and the power of movement in his legs. He was unable to walk for several months.

In the foregoing cases the obliteration of consciousness is, of course, abnormal. But obliteration also occurs as a normal and useful function in our mental life. For instance, a person whose eyes are crossed sees everything double. In order to eliminate the confusion of double vision, he may accustom one eye not to see. The visual impression falls on the retina

just the same, but the mind learns to ignore the stimulus, and to see only with the other eye.

People who use the microscope train themselves to see with only one eye, though they keep both eyes open. The mind sees with the working eye, but blinds itself to impressions falling on the other retina.

There is nothing remarkable in our ability to obliterate part of consciousness. Without being aware of it, we do it constantly. We learn to ignore street noises and the ticking of a clock. We even ignore things that we see. When we look at close objects, distant objects appear double. Contrariwise, when we look at distant objects, near objects are double. This can be demonstrated by holding a pencil about a foot from the face and looking at a doorknob across the room. When one looks at the pencil, he sees two doorknobs. When he looks at the doorknob, he sees two pencils.

Double vision of this kind, either for near objects or distant objects, is constantly present, but the mind learns the trick of suppressing consciousness, and thus attaining single vision.

We can now summarize our observations on consciousness: Consciousness is not continuous and uniform. It is more or less obliterated in sleep; it is obscured in abstraction. Consciousness may be obliterated only in certain fields. We are conscious of some things that strike the eyes or ears, but un-

conscious of others. The mental process that obscures consciousness may be normal or abnormal. The abnormal processes frequently result from shock.

SENSATION

We must now study the content of consciousness—the things that comprise the stream of thought. The use of the word "stream" in psychology is appropriate, for our thoughts are constantly moving.

The primary element of thought is sensation. We have sensations of sight when light waves meet the eye; sensations of hearing when air waves strike the ear; sensations of taste when food touches the taste-buds of the mouth; sensations of smell when nerve endings in the nose are stimulated; and sensations of feeling when the skin is touched or when a limb or muscle is moved.

The senses are sometimes said to be five in number—sight, hearing, taste, smell, and feeling. In reality there are many more senses. Feeling may be subdivided into a number of sensations—touch, pain, warmth, and cold—each arising from different "stimuli." There are also sensations of muscular movement, feelings that ensue when we move an arm or leg, or when we move the lips and tongue. These muscle-feelings are called "kinesthetic" sensations.

Consciousness arises not only from stimulation of sense organs, but also from cessation or change of the

stimulus. On entering a room we notice that the clock has stopped or that the table has disappeared. In this case we are not so much conscious of sensation as we are of the absence of an accustomed stimulus. We also note a change of stimulus, for instance that the orchestra is playing more loudly or more quietly than before.

MENTAL IMAGES

When we recall sensations to the mind, we do so with memory images. A visual image is a mental picture of something that one has seen. One can imagine, for instance, a kite in the air, and can picture the different details. The kite is red. The tail is long and crooked. Similarly, one may recall other visual thoughts—a friend's face, a neighbor's garden.

Auditory images are memories of sound. One listens to "ear-haunting" tunes. A person picks up a musical score, reads the notes, and hears the music in his mind. A musician may compose music without playing a musical instrument, merely jotting down the notes as the melody comes to him. A person may recall the voices of his friends, and may hear his friends and himself engaged in imaginary conversation.

Gustatory images are memories of taste. On an Antarctic expedition several years ago, the explorers amused themselves by describing their favorite menus.

There was roast turkey, chestnut dressing, plum pudding, and countless things that would appeal to hungry men. The pleasure of the pastime lay in the play of gustatory imagery.

Olfactory images are memories of smell. In mental imagery one may recall the smell of bacon or tobacco, or the odor of a rose.

Motor or kinesthetic images are memories of muscular movement—movements that occur, for instance, in walking, writing, or talking. A man who has lost a leg may still be able to wiggle his toes—in motor imagery.

ASSOCIATION[1]

The association of ideas in the mind is largely due to past experience. When two sensations have previously occurred together, the mental image of one is likely to recall the mental image of the other. The tunes of the English national anthem and the American national song "America" are identical. When the Englishman hears the tune, he recalls the words "God save our gracious King." The American, on the other hand, associates the tune with the words "My country, 'tis of thee." Each reacts to his past experience.

[1] For brevity and convenience the subject of association is not treated exhaustively. Only one type of association is considered—association by contiguity.

Again, one picks up a volume of Milton and shortly inquires the name of the last Emperor of China. What is the connection? The book suggested printing; China was thought of as the home of printing; the interest then turns to the country's political affairs and prompts the question concerning the Emperor.

All inward thought arises in this manner from association, each new thought being connected with the thought preceding.

Our emotional tone or mood has much to do with the things recalled by association. A man in a melancholy state of mind thinks dreary and depressing thoughts. Music may move him to tears, instead of arousing joyous feelings. On the contrary, a man who is happy and exhilarated, thinks cheerful and optimistic thoughts. Thus we see that emotion affects the associations.

CONDITIONED REFLEX; SUBSTITUTED STIMULUS

As emotion influences thought, so thought influences emotion. A man who has been in a train wreck may afterward experience terror when riding on a train. As a matter of reason, he may not expect to encounter another accident, yet the train awakens the emotion of the first accident, and he suffers fear, with the accompanying symptoms of tremor, palpitation, dizziness, sickness at the stomach, etc. The emotion

may have a stronger influence upon him than his judgment, and he may react to his fear by leaving the train and abandoning his journey.

Emotional and physiological memories persist for years. The following cases illustrate this point:

A woman was confined to a hospital with a long and painful illness. Years after she would tremble at the sight of a nurse in uniform.

A mother nursed her child during a fatal illness. Afterward she would become prostrate with grief on entering the room in which her child died.

A young girl, who was wearing a dental brace, found that she could not say the word "electricity." People laughed at her, and this made her afraid of the word. Her trouble continued when the brace was removed, and now twenty years later, when a grown woman, she is still fearful of the word "electricity" especially when speaking over the telephone.

Stammerers have similar experiences. As a child, Harry B. stammered when saying "Good night." He is still afraid of these words 30 years later. Mr. Brown stammers when first meeting Mr. Smith; thereafter he cannot address Mr. Smith fluently.

These "behavior" reactions are not always associated with emotion. A person may "react" without any feeling in the matter at all. If a man has previously stooped to avoid a low chandelier, he may continue to stoop after the chandelier has been raised.

If he has accustomed himself to stepping over a creaking board, he may still avoid the board after it has been nailed down. A man who has compressed the lips and clenched the throat in stammering may still compress the lips and clench the throat when the thought of stammering arises. This may become a mental habit, with fear not necessarily participating.

Of late the term "conditioned reflex" has come into psychology. The term implies a process of association in which the stimulus does not arouse merely a passive thought, but a mode of reaction (behavior) or an emotional response. Thus the woman who could not say "electricity" might be said to display a conditioned reflex.

With the conditioned reflex we often find a "substituted stimulus." Thus the man who has been through a train wreck may be terrified, not only by riding on a train, but by hearing the whistle of a locomotive.

An example of a substituted stimulus is furnished by the experience of a man who was terrified by air raids during the Great War. After the war he found himself similarly affected by the buzz of a bee. Apparently the sound of the bee aroused the old physiological reaction that had previously occurred when he heard the drone of an airplane. The bee now caused him to tremble, just as the airplane made him tremble during the war.

Another example of a substituted stimulus: A man who is about to receive a hypodermic injection is afraid of the prick of the needle. He cringes when alcohol is applied to the arm, though the alcohol does not hurt him.

A similar reaction is common with the stammerer. He is afraid of a word at the end of a sentence, and finds himself stammering at the beginning of the sentence.

TYPES OF IMAGERY

We revert again to the stream of thought and to the study of mental imagery.

With different people, different types of mental imagery predominate in the stream of consciousness. One person is eye-minded, thinking chiefly in terms of sight; another is ear-minded, thinking largely in terms of sound.

Irrespective of predominance, images vary in intensity. One man sees things dimly in his mind; another sees them clearly, with accurate detail of form and color. The latter may visualize a scene so clearly as to be able to sketch it from memory.

Auditory memories may also be clear or dim. For one man a concert is over when the music stops; another remembers the music for years. Similarly with the memory for voices. Some people recall the

voices of their friends; others merely remember their faces.

Motor images are likewise variable. One man feels clearly in his mind the movements he would make in skating, dancing, or swimming. Another is unable to recall these feelings of arm and leg movements, though he can clearly visualize himself in action.

Mental images, then, vary in intensity, and it is probable that no two minds are alike in their mental furniture. It has well been said that human minds vary as much as human faces.

THE CONCEPT

Concepts are thoughts consisting of groups of associated images. Naturally the associations arise from past experience.

A baby born in England hears the word "milk" associated with his familiar liquid food. Eventually he learns to refer to this food as milk, and thus he is able to communicate his thought. By a similar process of association, the French child refers to the same food as "lait."

As the children grow older, they associate certain visual symbols (letters) with certain sounds. The printed word "milk" recalls the spoken word, also the food to which it refers. The printed word "lait" means nothing to the English child, but to the French child it means the speech sound "lait" and the visual

image of milk, with which may also be associated the memory of the taste and smell of milk. The thought of an object thus comes to consist of a group of images.

Similarly, the thought or concept of an apple may consist of a number of mental images. There is the visual image of the apple, the recollection of its taste, the memory of its smell, and the imaginary act of handling it. To these images may be added the spoken word "apple" and the written word *apple*. These different images would not be equally conspicuous in every mind. The nucleus of the thought or concept varies with different people, according to the types of mind they possess.

We do not always think in words, though we use words to communicate our thought. When a child looks at a balloon and longs for it, the psychological experience is complete. It is a secondary process when he turns to his mother and says, "Mamma, I want the balloon." With the verbal thought he endeavors to communicate to his mother the primary thought that has transpired in his mind.

Much of our thought proceeds in visual imagery. An architect may plan a house or an engineer design a bridge by a process of mental picturing in which words are unnecessary.

THE VERBAL IMAGE

The mental image of a word, like the concept of an object, may consist of several elements. The word is represented in the mind not only by its sound, but also by the feeling of articulating it. The feeling image in turn may consist of two elements—the motor imagery of lip and tongue movements and the touch-feelings of lips and tongue in contact. To these elements may be added the visual image of the written or printed word.

The visual word ordinarily does not play a conspicuous part in verbal thought. When the average person thinks in words, he hears the words in his mind and feels the words at his lips.

CHAPTER III

The Psychoneuroses

Thought disturbances affect numerous functions besides speech. Thus we find stammering in swallowing, breathing, walking, and other muscular acts. We will study these impediments before returning to the subject of stammering in speech.

SWALLOWING

A common type of stammering is that seen in swallowing a pill. A pill is swallowed by the same mechanism that directs the swallowing of food, but one's fear of the pill or one's consciousness of the act of swallowing disturbs the coördination, and the pill fails to go down.

Swallowing is facilitated when the mental disability is removed. Thus a woman says that she can swallow a pill if she first wraps it in a doughy piece of bread. Though this makes the pill larger, it gives assurance to the mind, and makes the swallowing easier.

Certain articles of food cause stammering, just as certain letters and words cause stammering. For years one of my patients was unable to swallow grapes. Finally he overcame his difficulty in part,

but was never able to swallow the last grape on the plate.

The stammering that occurs in swallowing does not always take place in the throat. Sometimes the trouble is lower down—at the point where the esophagus enters the stomach. The stammering can be plainly seen by the x-ray. The food gets safely down the esophagus, then the opening to the stomach squeezes together, and the food cannot get past. This form of stomach-stammering is known as cardiospasm. The spasm is similar to the clenching of the throat (glottis) that occurs in speech stammering.

Eva F., a young woman of 24, has had cardiospasm for 15 years. When she swallows, the food "stops" at the bottom of the chest or comes up again into the throat. If the food is hot or cold, she can feel where it stops. Sometimes she swallows easily; at other times she cannot swallow at all. It is easier to swallow when she is alone, and she has taken her meals by herself for the past 12 years.

Francisco G., a young man of 32, has had trouble in swallowing for the past 18 months. For the first 12 months he lived on liquid food. He can now take solid food if he chews it thoroughly, but he is still unable to swallow meat. He cannot swallow when any one is watching; hence he takes his meals alone in the kitchen.

Francisco has another unusual impediment—stammering in blowing a bugle. The trouble came on when he was in the army. At first he had difficulty in blowing the high notes. Later the low notes bothered him too; and he had to give up bugle-blowing.

STAMMERING IN BREATHING

Stammering in breathing is not uncommon. It is often accompanied by a feeling of weakness and by fear of death. Ethel B., aged 35, says that when her attacks occur, there is a tightness in the throat that seems to stop her breath. She gets tired and weak, and her legs get numb.

Marjorie A., a little girl of 5, says that something holds her breath back or stops it in the throat. When this occurs, she has to lift her shoulders to get the breath in. Her attacks are worse when the family talk about her breathing. She never has spells when she is running or playing.

Mrs. C., 26 years old, has had attacks for 6 years, in which she "can't keep breathing." Her throat tightens up, and she cannot get her breath. If her attention is diverted, the symptoms disappear.

William F. is a man of 50, who runs a merry-go-round. He is in vigorous health except that he has had spells for 13 years, in which he pants for breath. In these attacks his lungs feel collapsed like a sponge.

Several physicians have examined him during the spells and between the spells, but have found no evidence of physical illness. His difficulty is breath-stammering.

STAMMERING IN WALKING

The following two cases are examples of leg stammering.

Florence G., a woman of 40, has had an operation on the right kidney. She was up and around after the operation, but one day she walked too far and became tired and nervous. After this experience the right leg became rigid and jerked up and down whenever she put her foot to the floor. There was nothing wrong with the leg; she merely stammered in using it.

Nettie J., 21 years old, has always been nervous. Once, when she was at church, it seemed to her that she could not read the words of the hymn fast enough. She became excited and fainted. On recovering consciousness, she was unable to speak for two hours. Lately she has begun to stammer in walking. When she walks, the right leg gets stiff, and the foot drags. She walks fairly well at home, but has difficulty when going to the grocery store. She wonders whether she will be able to get down the steps on leaving the store, and at this thought her lameness increases.

FACE AND HEAD STAMMERING

Guy C., a police officer, has a nervous difficulty, in which the head tilts to the left and jerks backward. Jerking began 6 months ago when he was having his picture taken. It has since become steadily worse.

Caroline C., a school teacher, has had a nervous jerking of the head for 5 years. The head suddenly twists round, as though she were looking behind her. The jerking is worse when people watch her. When she goes down town she carries a letter in her hand, and if she stops to talk to anybody she holds the letter against her chin. The touch of the envelope is sufficient to stop the stammering.

Harold G., a boy of 13, had a tic (twitching, jerking) of the right side of the face. It was cured in a few days when strips of adhesive tape were applied to the face to make the jerking painful.

ARM STAMMERING

Elaine G., a girl of 9, has had "paralysis" of the right arm for 4 years. When she attempts to use the arm, it trembles and jerks and gets stiff. This is worse when she gets excited or when people talk about her trouble.

The arm is not really paralyzed, for during medical examination, she is seen to brush a fly from her face. When she is told to repeat the movement, the arm jerks and becomes rigid, so that she can scarcely move

it from her side. In other words, she stammers in using the arm.

Josephine M., a woman of 44, caught her sleeve in the folding door of a street-car. Her arm was untouched, but she suffered a severe nervous shock because of her fear that she was going to be dragged along the street. The arm immediately became numb and "paralyzed," and it was several weeks before she could hold anything in her hand. Even then she dropped things. She says for instance, that her hymn book fell from her hand a number of times during church service.

STAMMERING WITH INSTRUMENTS (PIANO, VIOLIN, TYPEWRITER, TELEGRAPH)

Stammering is common in playing the piano. Quite often stammering occurs repeatedly at the same point, just as speech stammering recurs with the same word. Piano stammering is like speech stammering in another respect: one plays better when alone than when in the presence of other people.

Stammering occurs with other instruments besides the piano. We have already mentioned Francisco G., who stammered when blowing the bugle. A similar case is that of Maurice B., a professional violin player. Maurice plays in the orchestra of a moving picture theatre. He plays well with the orchestra, but stammers badly when playing a solo. When

they throw the spotlight on him, his fear is insufferable, and his stammering becomes worse. When he knows that he has to play alone, he practices at home for days beforehand, yet he stammers as badly as ever when the time comes for him to face his audience.

Stammering occurs in typewriting. As a rule there is no difficulty with particular words, but the typewriting itself may be difficult if the employer is watching or if the letter is unusually important.

Telegraph instruments may also occasion stammering. Douglas stammers in telegraphing the letter "g," and he becomes fearful and confused when he sees the letter coming.

STAMMERING IN WRITING

Clyde R., a young man of 32, says that he has always been nervous. When he played baseball, he would often get flustered, and throw the game away. On this account he was put off the team. When he was in the army, an officer gave him a severe "bawling out." He tried to speak, but began to stammer. After this it was 9 months before he could speak fluently.

A year or two after the war, Clyde was writing a letter. He had only one envelope, and spoiled it by writing a bad capital "J." He got some more envelopes, but spoiled several of them, and finally became convinced that he could not write a "J."

The "J" has now continued difficult for 2 years, and he becomes nervous and confused when writing it.

Henry F., a man of 42, had financial reverses that caused worry and depression. When his misfortune started, he began to have difficulty in writing. There was no trouble with any particular letter, as in the case of Clyde, but his hand would shake and make the writing illegible. The tremor became worse when people watched him, consequently he had difficulty in filling order slips at the counter. A specimen of his handwriting is given in figure 1.

FIG. 1. HENRY F. STAMMERS IN WRITING

All the cases referred to in this chapter have come under my observation, and I can adduce them as examples of stammering in which no physical defect was present. In medical terms, these nervous illnesses are called psychoneuroses. The difficulties arise from mental causes, the thought process or the action of the will being disturbed in such a manner as to affect muscular control.

Needless to say, the absence of organic causes must be determined before a diagnosis of psychoneurosis can be established. The bizarre nature of the patient's symptoms does not in itself warrant the diagnosis, for the manifestations of organic disease

may also be capricious. The following cases illustrate this point:

A physician, 60 years of age, finds that he has difficulty in writing the figure "2." This is not a symptom of psychoneurosis, but an early evidence of paralysis agitans—shaking palsy.

A little girl begins to stammer in playing the piano. A few days later it is clear that she has St. Vitus' Dance.

A young woman has difficulty in writing and speaking. The disturbance disappears, but returns in a few months. This is not psychoneurosis, but an early case of multiple sclerosis.

These cases are mentioned to guard the reader against the assumption that all bizarre symptoms are psychoneurotic in origin. The interpretation of symptoms should not be attempted by persons lacking medical knowledge, for symptoms are often misleading, and in any event symptoms alone do not constitute an adequate basis for diagnosis.

Finally, a word about our viewpoint concerning the psychoneuroses. There is a common tendency to regard the difficulties of a nervous patient as unreal—as existing only in his mind. This attitude is unwarranted, for the disabilities of the mind are as real as the ailments of the body. We may understand mental ailments less thoroughly and relieve them less readily, but this does not render the disability imaginary or wilful. The term psychoneurosis, then, should not imply an accusatory diagnosis.

CHAPTER IV

Recoil

We return now to the proposition that we speak as we think. We speak English if we think English, and Chinese if we think Chinese. If we think hastily and excitedly, we speak hastily and excitedly. If we think quietly and calmly, we speak quietly and calmly. We make slips of the tongue only as we make slips of the thought. If, in counting, we omit a number in speech, it is because we omit the number in the mind. If, on the contrary, we repeat the number in speech, it is because the mind repeats it.

When Jimmy says "There-there-there was one monkey in the park," he repeats the "there" in thought and hence repeats it at the lips. Similarly, when Winston says "I am two p-p-p-pounds underweight," he thinks the "p" repeatedly, and therefore says it repeatedly.

Our first impression is that Jimmie and Winston experience difficulty with the words and letters they repeat. Yet this is not the case. In fact, Jimmie says the word "there" so often that we cannot doubt his fluency with this particular word. In reality, his difficulty is in passing to the word that follows. Similarly, when Winston repeats the letter "p,"

the difficulty is not with the initial consonant—which he says fluently—but with the rest of the word, which he pronounces only after delay and struggle.

The situation is similar when Jack says "p---ounds" and when Harry says "N---o." The difficulty is not in beginning the word, but in continuing it.

We must again turn our attention to mental speech in order to ascertain what occurs when words are fragmented (p---ounds; p-p-p-pounds). In our study of mental imagery we found that the mental word consists of two elements—the sound of the word as it falls upon the ear (the auditory image) and the feeling of speech movements as they occur at the lips, tongue, and throat (the motor image).

At times the feeling image alone is recalled in the mind, and the sound image is lacking. In this event the mental word is fragmented, and in consequence speech is fragmented also. Using the feeling image, the stammerer produces abortive speech movements (p-p-p-p-) but he cannot complete the word (pounds) till he mentally hears it. In other words, he must have the mental sound available as well as the mental feeling in order to speak fluently.

We can illustrate this mental control of speech by an analogy. We will suppose that a man who has a good ear for music sits down at the piano to play "Yankee Doodle." If he is familiar with the tune and can rely on his musical memory, he will have no

difficulty. But, if he should suddenly become deaf—or making the analogy more precise, if he should suddenly lose his musical memory—he would be unable to proceed. If he attempted to play by recalling finger movements instead of musical sounds, he would certainly stammer.

The situation is similar with speech stammering. When the stammerer loses his sound-memory for words, he can proceed falteringly by recalling word feelings, but he cannot speak fluently till the sound memory becomes available.

The fragmented image ("p-p-p-pounds" or "p---ounds") is thus explained by the momentary loss of one of the two elements of which the mental word is composed. The sound of the word is momentarily obliterated, while the feeling of the word is partially preserved.

With more severe mental stammering the feeling-image as well as the sound-image may be obliterated—the entire word thus being expunged from the mind. In this event the stammerer makes no attempt to pronounce the word. He may repeat the word that precedes ("there-there-there"), but he cannot speak the fugitive word till its feeling and sound become mentally available.

With still severer stammering the obliteration of mental speech may be complete. No verbal imagery is forthcoming, consequently there is no attempt at

speech. The stammerer blushes or holds his breath or writhes in his chair, but the actual speech effort is nil because the verbal thought is nil.

I will now attempt to explain more precisely my conception of the obliterating process that disturbs mental speech. I will approach the matter by citing a theory of the mental cause of stammering that was advanced by Wyneken[1] 50 years ago, and also by reviewing a theory of stammering that I advanced myself[2] in 1912. This theory of 1912 I have since slightly modified.

Wyneken says that the stammerer is a "speech doubter." "It is just as though one were to attempt a leap and find himself seized with doubt at the very moment that he springs. He is too late to prevent the leap, but does not jump with confidence, and hence does not accomplish what he intended."

Wyneken believes that the situation is similar with speech stammering. According to his theory, the impediment ensues when the speaker mentally starts and stops. This explanation is notable, since it is one of the earliest attempts to explain stammering on psychological grounds. Yet the theory is inadequate, for it does not show how the stammerer be-

[1] Wyneken, C. Ueber das Stottern und dessen Heilung. Zeitschrift für rationelle Medicin. Bd. xxxi, 1868.

[2] Bluemel, C. S. Stammering and Cognate Defects of Speech. G. E. Stechert and Co., New York, 1913.

came a speech doubter. Furthermore, there are many stammerers who are not speech doubters; their stammering occurs quite apart from any anticipation of it.

Wyneken's theory does not account for stammering that results from association and imitation. Nor does it explain the occurrence of stammering in silent thought. The speech doubting theory therefore does not afford a full explanation of the mental origin of stammering.

And now to consider the former theory of my own. According to this theory, the stammerer's difficulty is occasioned by a momentary "amnesia" or loss of memory for the word he wishes to speak. His memory for word-sounds is weak, just as one's musical memory may be weak; thus the word-sound fails at times to emerge in the mind. Stammering then results, if the speaker attempts to proceed with his unaided motor images of speech. "If he attempts to say the word *ten*, he produces the *t* entirely by feeling; but he cannot mentally hear the sound *e*, and is hence unable to proceed." The result is the word "t-t-ten" or "t---en," the consonant being repeated in the first case and held in the second case.

The theory is, I believe, substantially correct, though not sufficiently precise and clarified. Loss of sound imagery undoubtedly occurs; but the difficulty is not so much an inability to *recall* the sound, as it

is a recoil of the sound from the mind. Amnesia occurs, not because the stammerer waits upon his memory, but because he is confronted with a break in the continuity of consciousness.

Psychologically, the two situations are different. The dim mental imagery of the first situation might be likened to a moving picture that is poorly illuminated. The images are there, but they are difficult to identify. The recoiling imagery of the second situation might be compared to a moving picture in which blanks occur because of blemishes in the film. In the second case the images actually disappear. This second type of image loss illustrates my conception of the "recoil" of thought that leads to stammering.

It is obvious that recoil might occur with strong imagery as well as weak imagery; hence weakness of auditory memory is not a necessary prerequisite to stammering. Nor is recoil necessarily confined to the auditory element of the word. The motor image may also recoil, and in this case the thought block is more pronounced.

Recoil may vary in degree from a momentary stoppage, in which the verbal image blinks back from the stream of consciousness, to a complete block in which all words are obliterated from the mind. When complete thought block ensues, the stammerer is unable to proceed. He may evince embarrassment and confusion, but he makes no effort at speech for

the reason that verbal thought has been expunged. His thoughts stop, just as a moving picture would stop if the film were suddenly to break.

This complete obliteration of verbal thought occurs not only with severe stammerers, but also at times with the occasional stammerer.

Mr. Brown may not have stammered for weeks, but when he is called upon to make a speech or to take the witness stand, all words recoil from his mind, and he is thrown into a state of bewilderment. It is this ever present susceptibility to recoil that makes speech so precarious, even with the partially cured stammerer.

According to the views here presented, stammering is an impediment of thought, and not an impediment of speech. The disturbance inheres in the mental mechanism of speech and not in the physical mechanism.

The development of the thought disturbance can be understood in cases where stammering results from imitation or association.

Imitation. When one imitates stammered speech, he must necessarily mutilate his mental words. In order to say "t-t-t-take" he mentally withholds the sound "take" while he repeats "t-t-t-t-." When the verbal imagery is thus repressed from consciousness, it shortly learns to recoil on its own account.

Association. The situation is similar when one listens to stammered speech. The stammerer says "it is nine o'-cl-cl----." The listener knows that he is attempting to say "clock," and while he awaits the word, he represses its sound in his mind. This continued repression eventually leads to recoil.

Fright and Shock. Just why the mental mechanism of speech should be disturbed by fright and shock, I am not in a position to say. We know, however, that shock does disturb the continuity of consciousness (Chapter II, page 18). The disturbance varies in degree from a momentary interruption of thought (accompanied by starting or jumping) to complete obliteration of consciousness, which we know as fainting. Disturbances of consciousness may persist for years after the occurrence of the original shock. This fact is illustrated not merely by stammering, but also by epilepsy and the various psychoneuroses.

These few pages present briefly my theory of stammering, and describe the disturbance of the mental mechanism that causes speech stammering to appear. There remain yet one or two further points to be mentioned before we take up the subject of speech correction.

Fixation of Attention. Fixation of attention may occur when words recoil from the mind. When the word-sound *Denver* disappears, the stammerer may find himself staring fixedly at a mental image of the

printed word DENVER. At other times his attention becomes focussed upon the muscular spasm that ensues as the tongue thrusts itself more and more vigorously into the roof of the mouth. In either case the stream of thought is stopped, attention becomes fixed, and speech is at a standstill.

Spasm. The subject of spasm deserves further study. It is one of the aspects of stammering that has received much attention in descriptive writings on speech defects. Personally, I am inclined to the view that spasm is nothing more than the abortive struggle that results from the stammerer's effort to speak with unaided motor images.

However, it is conceivable that there may occur with children who have previously spoken normally, a spastic condition[3] of the vocal cords that interrupts vocalization and thereby leads to physical stammering (o-o-o-oh; a-a-a-and). Yet if this condition is the initial cause of stammering, it is not the continuing cause, for there frequently develops within the course of a few days a full-fledged stammering, with boisterous repetition of words and syllables, which could not result from spasm, and which necessarily must have its counterpart in mental imagery. It is this stammering that persists as an impediment of thought, even though the initial speech defect may

[3] Tightness, stiffness.

perhaps have resulted from physical obstruction to vocalization.

Continuing our conjectures, and assuming obstruction to vocalization to be the initial speech symptom, we can suppose the subsequent course of events to be as follows: Physical obstruction to speech leads to corresponding mental obstruction. Mental obstruction in turn leads to recoil, just as obstruction leads to recoil when the speaker voluntarily imitates stammering. Recoil, once implanted in the mind, spreads through the mental speech processes, and gives rise to genuine stammering. The spasticity of the vocal cords may now subside, but mental stammering is established, and the impediment continues.

This reasoning is speculative and is based upon the assumption that spasm may occur prior to the recoil of imagery, and thus be the primary cause of stammering. The actual situation is probably the reverse, that images recoil and that "spasm" results. In many early cases of stammering there is no spasm of the glottis, but merely repetition of words or consonants, and the so-called spasm ensues only as the stammerer struggles with speech. Spasm thus becomes a symptom rather than a cause, and the impediment resolves itself into a disturbance of thought rather than a disturbance of speech.

Underlying all this disturbance of thought there is, of course, a neurotic temperament that makes recoil

possible. Even before the inception of stammering there is apparently a lack of mental composure. With the onset of the impediment, this trait becomes intensified. Thus we see that the larger task of the stammerer is not merely to tranquilize his mental speech, but to tranquilize his mind and his life.

PART II

THOUGHT TRAINING AS THE BASIS OF SPEECH CORRECTION

CHAPTER V

Principles of Speech Correction

In this chapter we present a brief review of the principles involved in treating stammering. Later the application of the principles will be discussed in separate chapters dealing with different age groups.

MENTAL DRILL

The remedy for stammering consists in thought training rather than speech training. This is necessarily so, since stammering is a thought disturbance and not a speech defect. In the corrective training, thoughts are disciplined by drilling them like soldiers; they are brought first into line, then into step, and finally into orderly maneuver.

Through this drill the stammerer learns to focus his attention more sharply on the mental process of speech, thereby avoiding recoil of imagery and incoordination of thought.

SIGNALS

Drill is effected by requiring the stammerer to speak only in response to signals. Signals are given by the instructor with a castanet. A light tap of the castanet signals the pupil to speak. A loud snap com-

mands him to stop. A double tap of the castanet directs him to repeat.

With signals the instructor compels the stammerer to think one sentence at a time. The pupil thus avoids the confusion that ensues when he rushes headlong into unmeasured speech. The signals also enforce pauses. During the pauses the stammerer must tranquilize his emotions and formulate his thought. Thus he learns to direct attention to mental speech instead of physical speech.

When the pupil receives the signal to proceed, he may speak a short sentence—generally four to eight words. He must then wait for a further signal before speaking again.

At the least sign of stammering, the pupil is halted with a loud snap of the castanet. When this signal is given, he must relinquish all attempt at speech. He may not be actually speaking at the time—stammering is perhaps merely threatening—but in any event he must cease all effort at speech and attend to the matter of tranquilizing his mind. After a protracted pause the instructor resumes the signals—either a quiet tap of the castanet, the signal to proceed, or a double click of the castanet, the signal to repeat the sentence previously interrupted.

The pupil is signalled to stop, not only when he stammers, but also when he changes his sentence construction. If he says "I went- I was going," it

is clear that he has not thought his sentence to an orderly conclusion. He is therefore brought to a halt in order that he may review his mental processes.

When sufficient progress in thought control has been established, the pupil is allowed to signal for himself. In place of the castanet, he uses a telegraphic snapper[1] —a little contrivance that gives a metallic click when squeezed between the thumb and finger. The device is sold under various names, such as "snapper," "clicker," "starter," "frog," "cricket," "cricket-snapper," "telegraphic snapper," etc.

The pupil's signal implies a guarantee that he has tranquilized his mind, formulated his thought, and taken a quiet breath preparatory to speech.

If any of these guarantees are found to be unfulfilled, the instructor brings him sharply to a halt with a snap of the castanet. If speech continues unruly, the pupil is required to follow the instructor's signals for a number of sentences before he is again allowed to signal for himself. The pupil's signals, it will be seen, are provisional, the privilege of signalling being contingent upon the exercise of proper speech control. When control fails, the instructor's signals intervene and dominate the situation.

After several weeks of training, the pupil is allowed

[1] Crickets can be secured from Geo. Berbert and Sons, 228 16th Street, Denver, at 60 cents a dozen. Wholesale from the American Import Company, 16 First Street, San Francisco, California.

to speak without signals, but he must still speak carefully from pause to pause and from sentence to sentence. When he fails to control his thought, the signals are reinstated.

SPEAKING IN UNISON

It has already been pointed out that the stammerer usually talks fluently when speaking in unison with other people. Advantage is taken of this principle in the following manner:

At the beginning of speech training, the entire class reads together. Later the pupil reads alone. When a pupil reads by himself, the situation is reversed if stammering threatens, the class joining the reading and carrying the pupil past his difficulty.

In conversation the instructor supplies the words when he knows what the pupil is about to say. If it is clear from the context that the stammerer is attempting to say "Colorado," the instructor says the word with him and carries him past his thought block.

SILENT SPEECH

Silent speech consists of articulation, without voice and without whispering. It is thus normal speech except that there is no vibration of the vocal cords. Silent speech prevents spasm of the speech organs, and thus averts fixation of attention upon the tactual and motor feelings that accompany "spasm." By using

silent speech the stammerer is enabled to focus his attention more sharply on verbal thought; thus he learns to control speech at its source.

Silent speech is used freely during the early weeks of training. Later, silent speech is merged into vocal speech by the gradual addition of voice. In advanced work, silent speech is used as a refuge from thought block, the pupil dropping into phantom speech when he encounters difficulty. He afterward repeats the difficult phrase with the addition of voice.

RELAXATION

When there is contortion and muscular "spasm," the stammerer is instructed to reduce the physical effort accompanying speech. Consonants are touched lightly with lips and tongue, instead of being forcefully exploded. Speech is made quiet and tranquil, just as the mind is quiet and tranquil. General relaxation is secured by having the pupil recline in an armchair or lie on a couch.

Relaxation, however, is a minor and not a major principle of speech correction. Its benefit is largely limited to adults. It is of little use to admonish a child to relax, for it is not in a child's nature to do so, and it is not necessary for him to be physically quiet, so long as he gives due regard to the mental side of speech. A boy may wriggle and twist and display no relaxation whatever, yet remain entirely free from

stammering so long as his thoughts are properly controlled.[2]

SLOW SPEECH

Slow speech is helpful, at least during the first few weeks of training. Speech is slowed by slightly elongating the vowels; not by making pauses between words and syllables.

Slow speech is not a major principle of speech correction. The fault with the average stammerer is not that he talks too rapidly, but that he talks without deliberate thinking.

BREATHING

Very often the stammerer breathes incorrectly, either exhausting the breath before speaking, or exhaling during the first few words, then gasping for breath in the middle of words or sentences. Faulty respiration is corrected by requiring the pupil to take a quiet, slow breath before speaking, and by bringing him sharply to a halt with the castanet when he relapses to his old mode of respiration.

It would seem that nothing could be easier than breathing, yet weeks of work may be required to correct faulty habits of respiration.

[2] Entire systems of therapy have been based on relaxation. (Hausdörfer, Appelt.)

GRADATION OF WORK

In speech training, we naturally begin with the easiest tasks, then proceed gradually to more difficult exercises. Even in cases of slight stammering, the easier work is not omitted altogether, for the pupil needs the rigorous mental training that the elementary work imposes. In a general way we can say that the simplest task consists in reading, for in this procedure the thoughts are already formulated for the pupil, and he merely reproduces them. At first the pupils read in unison, for this is the easiest procedure. Afterward they read by pairs, and later alone.

We furnish young children with ready-made thoughts by telling them stories, which they repeat sentence by sentence after the instructor. The mental process is analogous to reading.

In the second phase of the work, we require the pupil to formulate his verbal thoughts, but we supply him with visual images. Visual imagery is furnished in the form of pictures, which the pupil discusses.

In the third phase of the work—spontaneous speech —we furnish neither words nor pictures. We ask questions, engage the pupil in conversation, and request him to discuss different topics. He must now coördinate for himself the various types of imagery that enter his stream of consciousness.

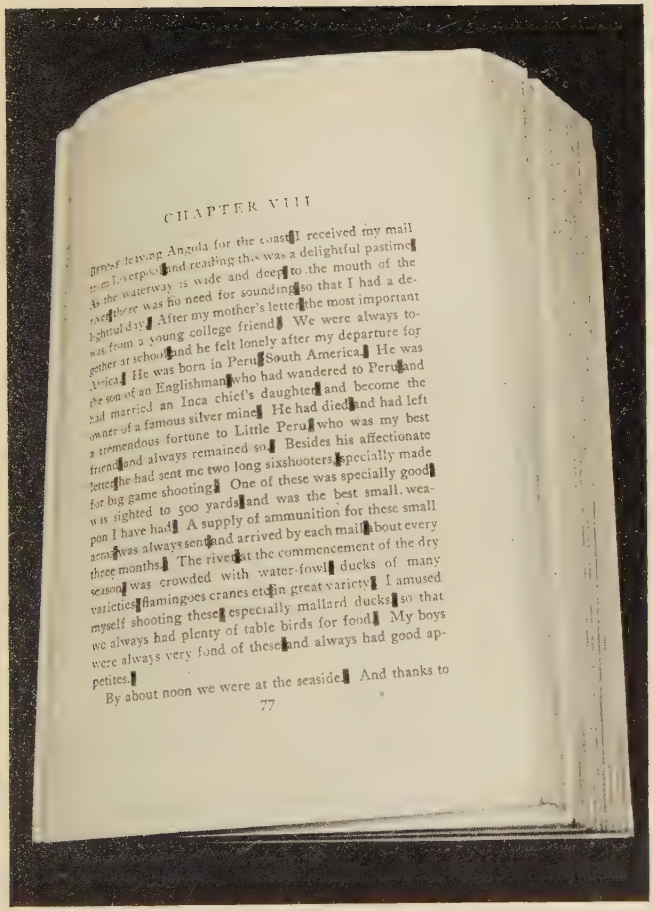
It is impossible to graduate the work in so absolute

a manner as the preceding paragraphs suggest. It is not feasible, for instance, for the pupil to avoid spontaneous speech during the early part of the course, when the preponderance of work consists in reading. Of necessity he must talk outside of class, and he must converse with the instructor in class. Nevertheless, the outline suggests a scheme of gradation, which in a general way is observed in speech work.

One of the chief advantages of beginning the introductory work with reading is that reading admits of rigid mental drill. The page is marked by stops ▌ which divide the reading ▌ into short phrases and sentences. ▌ With the castanet the instructor directs the reading from stop to stop, and thus he exercises a rigorous control which compels the stammerer to discipline his mind. The same discipline must be maintained when the pupil signals for himself, and eventually the same orderly manner of thought must be carried into spontaneous speech.

MERGING SITUATIONS

Another aspect of the work is that of merging favorable situations into unfavorable situations in order that the fluency and confidence of the easy situation may be carried into the difficult one. An example has already been mentioned, namely, reading in unison and reading alone. The entire class, we will suppose, is reading together. John's name is called, and the



CHAPTER VIII

Before leaving Angola for the coast I received my mail from Liverpool and reading this was a delightful pastime. As the waterway is wide and deep to the mouth of the river there was no need for sounding so that I had a delightful day. After my mother's letter the most important was from a young college friend. We were always together at school and he felt lonely after my departure for America. He was born in Peru South America. He was the son of an Englishman who had wandered to Peru and had married an Inca chief's daughter and become the owner of a famous silver mine. He had died and had left a tremendous fortune to Little Peru who was my best friend and always remained so. Besides his affectionate letter he had sent me two long sixshooters specially made for big game shooting. One of these was specially good; was sighted to 500 yards and was the best small weapon I have had. A supply of ammunition for these small arms was always sent and arrived by each mail about every three months. The river at the commencement of the dry season was crowded with water-fowl ducks of many varieties flamingoes cranes etc in great variety. I amused myself shooting these especially mallard ducks so that we always had plenty of table birds for food. My boys were always very fond of these and always had good appetites.

By about noon we were at the seaside. And thanks to

77

FIG. 3. THE READING IS MARKED WITH THOUGHT STOPS

FIG. 4. SINGING NURSERY RHYMES IN UNISON

rest of the class remain silent, while John continues to read by himself. If John stammers, his classmates join the reading, and thus the situation is merged into a favorable one that breaks the thought block. This merely by way of example. Other situations will be discussed in a later chapter.

CHAPTER VI

Kindergarten Children

The corrective work described in this chapter is adapted to children in the kindergarten and the first few grades. The work is also suitable for home training, as the chapter suggests a useful outline which a mother may follow in training her own child.

SINGING NURSERY RHYMES

The most elementary work for young children consists in singing nursery rhymes in unison. It has already been pointed out that a stammerer can sing fluently in spite of his impediment in speech, and that he can speak in unison with other people although unable to talk alone. The exercise of singing in unison combines these two principles.

The nursery rhymes are played on the phonograph. The rhymes should be chosen with a view to their suitableness for group singing. The melodies should be simple and there should be no animal cries. Suitable records are Victrola records Nos. 20621 and 20212.[1] There is no occasion to secure a large assortment of

[1] Victor Talking Maching Company, Camden, New Jersey, and The Gramophone Company, Ltd., Hayes, Middlesex, England.

records, for singing is introductory, and is not continued beyond the first few days of the speech course.

The songs are first sung by the entire class—usually about four pupils. They are then sung by groups of two children, and later by each child alone. Stammering entirely disappears in singing, hence the child makes an auspicious beginning. If a child is self-conscious and objects to singing by himself, he should not be unduly pressed to do so; coercion increases his embarrassment, and does not necessarily further his progress.

RECITING NURSERY RHYMES

On the second day the work can be varied by the introduction of speech. The children recite the rhymes instead of singing them. The recitation is given first by the entire class, later by two pupils reciting together, and finally by each pupil alone. Only a short phrase or sentence is spoken at a time, and each sentence is signalled with the castanet. If a child stammers when speaking alone, the instructor comes to his rescue by speaking with him. In this instance it is a simple matter for the instructor to render assistance, for he knows what the pupil is about to say, and can supply the words for him. The child, we will suppose, is attempting to say "Little Tommy Tucker." He hesitates at the word "Tucker;" the instructor says the word and carries him past his diffi-

culty. He then asks the child to repeat the whole sentence, and says it with him in order to establish fluency and confidence.

The instructor can now ask questions about the nursery rhymes—for instance, "Who sang for his supper?" He frames the question so that he can anticipate the answer; he is then able to assist the pupil if stammering threatens. A more general question, such as "Tell me about Tommy Tucker" would give no pre-knowledge of the response, and thus the situation would be less favorable for rendering assistance.

STORY TELLING

Stories can be introduced on the second or third day of the course.

1. The instructor tells a story in short sentences of four to eight words. He allows a pause after each sentence, then clicks the castanet as a signal for the class to repeat the sentence after him. At first he repeats the sentences with them, in order to counteract the tendency to hurry.

The story proceeds, by phrase and sentence, in this manner: "Once upon a time there were three bears, | a papa bear, a mama bear, and a baby bear. | They lived in a house | near a large forest. | One day mama bear made some porridge. |" etc.

Speech is slow and deliberate, though not drawling.

FIG. 5. THE TEACHER TELLS A STORY, SENTENCE BY SENTENCE

FIG. 6. AN OLDER PUPIL ACTS AS LEADER

Pauses are several seconds in length. As imitation is strong at the kindergarten age, the instructor's speech should furnish a good pattern for the children to follow.

2. After a period or two, the children repeat the sentences separately after the instructor, instead of speaking together as a group. The instructor gives a sentence, then turns to the pupil who is to speak, and signals with a light tap of the castanet. The child then repeats the sentence after him. The instructor gives another sentence, and the second child repeats it. If a child is inattentive the instructor passes to the next pupil and the work proceeds without fuss or remonstrance.

In the case of severe stammerers, two intermediate steps may be employed:

3. The pupils speak by pairs before speaking alone.

4. The pupils speak alone, but each gives the same sentence, instead of repeating different sentences after the instructor. Each pupil is signalled separately before he speaks.

When the children have acquired a conception of quiet, careful speech and have established a fair degree of control, the foregoing procedure can be varied by allowing a pupil from an advanced class to act as leader in the instructor's place. This affords excellent training for older boys and girls.

Leadership is also accorded to the kindergarten chil-

dren. An intelligent child of five can conduct a class quite well, telling a story sentence by sentence, and maintaining proper speech discipline.

These little tots frequently make appropriate reprimands—"Say it again," "It's too fast," "We could not hear you," etc.

After each child has successfully taken his part as leader in the story telling, he is allowed to relate stories to visitors. To add to the interest of the stories, he may demonstrate them with toys[2] or tell them from picture books.

During the first week or two the instructor signals for every sentence the child speaks. Pauses are protracted, and afford the child ample time to quiet his mind and formulate his thought.

When the class is making satisfactory progress and has become accustomed to the discipline of the castanet, the instructor permits the child to signal for himself with the metal clicker. At this point the work must be carefully watched, as several tendencies appear which may relax the rigorous mental discipline, to which the child has thus far been held.

A careless child may click first, and think the sentence afterward. A second child may start promptly, but shortly stop to think out the rest of the sentence. A third child may stop and change his sentence con-

[2] Candoit Toys. The Fallis Toy Shop, 637 Franklin St., Denver. Toys can also be made by the school's manual training department.

struction. There is sometimes a tendency to lengthen sentences unduly and to speak several sentences for a single click of the signal. Frequently pauses are abbreviated, and sentences hurried.

It must be impressed upon the child that signals are to be faithfully observed. The signal is to be regarded as a guarantee that the pupil has fulfilled the conditions necessary for fluent speech—that he has quieted his mind, thought out his sentence, taken a breath, and prepared himself for speech. This evaluation of the signals is accepted by the class if it is so accepted by the instructor, and it devolves upon the instructor to use signals only at this value.

The pupil's clicker is always subordinate to the instructor's castanet. At the snap of the castanet, the pupil stops even in the middle of a sentence. A tranquilizing pauze ensues, then two light taps of the castanet signal the child to repeat the sentence on which he has stammered. There should be no verbal protest. The signals direct attention to speech; expostulation emphasizes the instructor's displeasure.

The castanet, then, dominates the situation. The signals are the commands by which the child's thoughts are drilled. The unruly thoughts are brought into line, into step, and into orderly maneuver. The instructor is the drillmaster, and with his inviolable commands he drills the pupil's thoughts till the pupil is able to control them.

Despite the rigid discipline of thought, the children themselves are not repressed. Spontaneity is allowed, especially when the transition has been made from group work to individual speech. If spontaneity becomes too marked, the class can be tranquilized by a few moments' silence. The children can also be quieted by the game of going to sleep. They close their eyes, fold their hands, and droop their heads. In a few moments they are allowed to "wake," and the work proceeds with the class under control.

Occasionally a case is found in which there is marked attention defect in addition to stammering. The child displaying such a defect jumbles his sentences, even when repeating after the instructor. Gladys, for instances, attempts to repeat the sentence "and she tasted the porridge." Instead of these words, she says "And- and- tasted por- and she tasted . . . " This type of jargon persists as long as Gladys repeats after the instructor. The procedure is therefore reversed, Gladys telling the story, and the instructor repeating after her. He repeats Gladys' jumble and jargon, with the result that she becomes embarrassed at hearing her own speech reproduced. Her protests are met with the admonition "Think what you want me to say," "Make me say it right," etc. Finally Gladys learns to put her own house in order. This form of speech training is not suited to class work, but should be undertaken in private instruction.

PICTURES

Up to this point speech work has consisted principally of repeating sentences after the instructor. The pupil has thus been supplied with verbal imagery. In the next phase of the work he must formulate his own verbal thought, but is furnished with visual thought in the form of pictures.

Suitable pictures can be cut from the pages of magazines. Pictures should be large, and preferably colored. They should contain a number of objects, and should express action and admit of interpretation—in other words, the pictures should permit the child to exercise his imagination in all directions. For school use the pictures should be pasted on cards.

Stories can be outlined by pasting small pictures on cards in appropriate order. Such a group may portray a man, a traveling bag, a house, a train, a steamship, and a hotel, the pictures thus suggesting a story of travel.

When the pictures are first introduced, the instructor acts as leader, telling the story sentence by sentence.

1. At first the class repeats the sentence in unison.
2. Later each child repeats the same sentence separately.
3. Finally each child repeats a different sentence, the instructor dictating a sentence to each child in turn.

As in the previous work, the children speak only when signalled by the instructor's castanet.

After a little preliminary work of this kind the children tell stories by themselves:

4. At first the instructor signals each sentence with the castanet.

5. Later the child signals for himself with the clicker.

Thus the work progresses as the children develop increasing control in speech.

The pictures used in these exercises must be large, in order that the children may sit well back from them. When a child is close enough to touch a picture, he usually points and enumerates objects. Thus Bobby points twice and says "man" and "horse." When seated away from the picture and told that only babies point, he says "I see a man and a horse in the picture." He then describes the action, "The man is driving the horse, and the horse is pulling a sled." Occasionally children interpret the feeling of a picture—"They've just come from a party, and it's Christmas eve." At times little response is forthcoming, and the instructor must elicit it by questioning: "How many people are there in the picture?" "How are they dressed?" "Where do you think they are going?", etc.

Pictures are also used for a guessing game. A number of pictures are set up before the class, and the instructor says something about a picture he has in

Fig. 7. When Seated Close to the Picture, Bobby Points and Enumerates

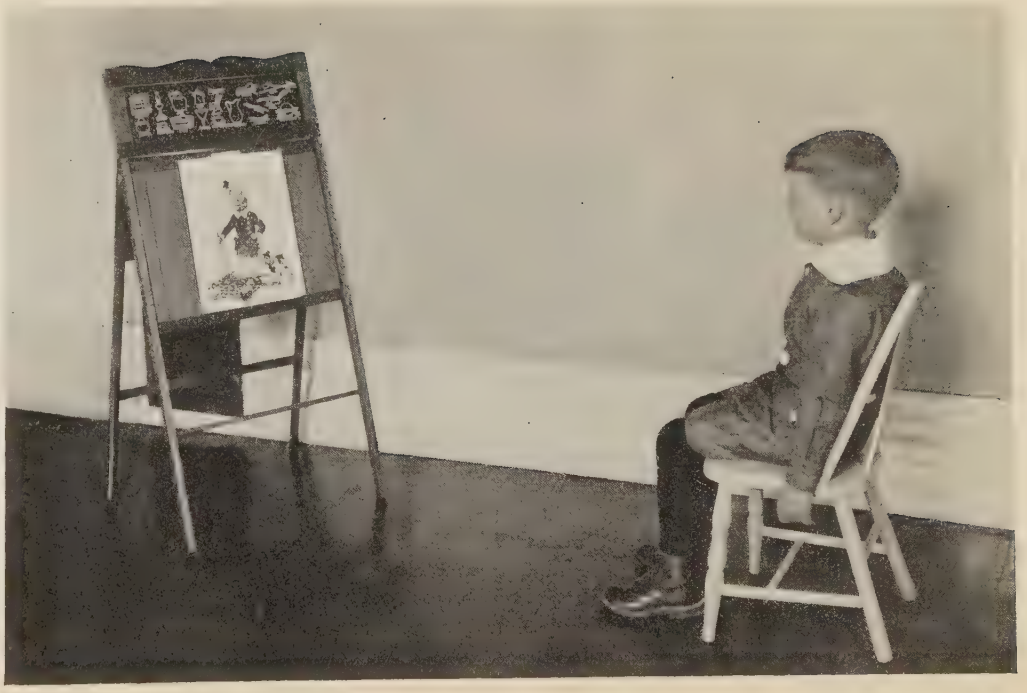


FIG. 8. WHEN SEATED FURTHER BACK, BOBBY TELLS A STORY FROM THE PICTURE

Fig. 9. The Game of Store

Fig. 10. The Telephone Game

mind. From his comment the children guess which picture he thought of. He says, for instance, "I am looking at a picture of some people having lots of fun." Tommy, whose turn it is to guess, probably points to a picture and says "Is it that one?" When told that only babies point, he re-states his question, "Is it the picture of the boy and girl playing tennis?" or "Is it the picture of the people having a picnic?" If Tommy guesses correctly, he is allowed to choose the next picture, while the other pupils guess.

In this and other games, signals are used during the earlier weeks of the speech course.

LANGUAGE GAMES

The Game of Store. A table, which is to serve as a counter, is set out with boxes, packages, and various articles that a juvenile storekeeper can sell to a juvenile customer. Wax fruit and vegetables can be purchased at the Five and Ten Cent Store; empty cans and boxes are procured from the kitchen. The principals in the game are the storekeeper, and the mother (or father) who sends the children to the store to make inquiries and purchases. If the children are old enough, the transaction of purchasing is made with artificial money. The groceries are brought home in a market basket and the various purchases are discussed.

The game can be varied by equipping the store with

pictures, instead of boxes and packages. The advertising pages of magazines are searched for pictures of chocolates, pies, cake, oranges, watches, shoes, dresses, etc. The pictures are pasted on cards to equip the juvenile emporium.

I Give You. A child is chosen as leader, and the others seat themselves in a semi-circle. The leader distributes the cards among them, saying: "Bobby, I give you a pair of shoes." "Gladys, you can have a pair of gloves." "Tommy, here is a pocketknife," etc.

When a number of cards have been distributed, the instructor questions the children about the pictures they have in their hands. Gladys tells what she will do with a pair of gloves, a trunk, a teapot, and a doll; afterward she is asked about her own dolls and about a journey which the trunk prompted her to mention.

A game can be made of collecting the cards. A child takes the basket and asks for each card by turn: "Please give me the shoes; now the gloves; now put the cake in the basket," etc.

The game becomes stereotyped unless the children are premitted to exercise spontaneity.

The Telephone Game. The store game can be varied by the introduction of telephones. There is a telephone for the store and one for the house. The store may be an imaginary one, or the equipment of the previous game can be used. Two children play at

each telephone, the mistress and the maid conducting their conversation from the house, and the grocer and his clerk from the store. The conversation proceeds as follows:

Mistress: Ask the grocer whether he has any lamb chops today.
Maid: Have you any lamb chops?

Order Clerk: The lady wants to know whether we have any lamb chops.
Grocer: Tell her we have some very good ones.
Order Clerk: We have some very good lamb chops.

Maid: He says the lamb chops are very good today.
Mistress: Ask him how much they are, etc.

Better control of speech is secured when the instructor and an assistant preside at the telephones, with the pupils playing secondary parts. The instructor and assistant preside as mistress and grocer; the pupils take the parts of maid and clerk. Speech is then dictated to the pupils, sentence by sentence, as in story telling.

Tea Party. The children play that they are having a tea party. The instructor acts as host; the pupils take the part of guests. The table is set with paper plates and napkins, or with more elaborate equipment if available. If conversation at the table is not sufficiently spontaneous, the instructor elicits and directs it. "Mr. Brown, would you rather have tea or coffee? What kind of cake do you like?" "Miss

Smith, did you have a pleasant journey here? Will you tell us about your summer vacation?"

Pupils who have initiative may act as host instead of the instructor.

Doll's House. This game, although an excellent one, is not suitable for more than two children. The equipment consists of a dolls' house, from which the front has been removed. The game consists of moving out and moving in. The child who directs the moving stands well back from the house, and thus avoids the temptation to point. He tells his playmate what to move from the house, "Take the sofa first." The second player takes the sofa and puts it on a nearby table. "Now take the armchair." The armchair is taken out, and the moving man inquires, "What shall I take next?"

Moving out is followed by the game of moving in, the players changing parts.

Attention defect is often evident in this game, the child commencing to speak before formulating his thought. Thus he says, "Go and get the . . . ." He is then unable to proceed because he has made no selection in his mind. The resultant fragmentary speech is corrected quite as much as stammering, and the child's attention is called to the fact that he did not choose a chair or a table before speaking—in other words, he was talking without thinking. The nature of the thought defect soon becomes evident to the

Fig. 11. The Game of Moving Out and Moving In

Fig. 12. The Game of Hand in the Box

child, and he establishes in his mind a conception of "thinking before you talk."

Noah's Ark. A Noah's ark is used instead of a doll's house. Moving in and moving out proceed in the same manner.

The clicker is used in the various games till control is established. The castanet commands the situation when necessary.

Hand in the Box. The equipment consists of a large box containing celluloid toys, and various odds and ends, such as a key, a thimble, a pencil, an eraser, a pocket knife, etc. The box is covered with a cloth. The child puts his hand in the box and chooses an article, which he must try to identify by the sense of touch.

Mary: I think I have a rabbit.
Instructor: What makes you think it is a rabbit?
Mary: I can feel his ears.
Instructor: Are you sure they are not horns?
Mary: No, I think they feel like ears.

After discussion of this kind, the rabbit is produced and the conversation proceeds, "Who knows where rabbits live?" etc.

There is a good deal of eagerness in the game, and stammering is likely to occur. As the child's hands are busily engaged, he talks without the clicker. If he fails to exercise control, he is permitted to speak only on signals given by the instructor.

The child who speaks best is allowed to replace the toys. He tells the other children what to bring him.

Formal Recitation. The child is called upon to recite nursery rhymes[3] before the class and before visitors.

In advanced work he recites without the clicker. If stammering threatens, the instructor joins the recitation and carries him past his difficulty.

Questions and Answers: Conversation. Questions are employed to direct the conversation.

"What did you see when you came to school this morning?"
"What did you get for your birthday?"
"What did you do on Christmas day?"
"How do you play Hide and Go Seek?"
"What did you see at the circus?"
"What games do you like to play?"
"Who was Goldilocks?"
"If we were going to a restaurant for lunch, what would you like to order?"
"Let's look out of the window." "What do you see, Bobby?" "What is the policeman doing?" "Where do you suppose the lady is going?"

Rattling. As the child improves in speech control, attempts are made to embarrass him. The instructor pretends not to understand what Bobby has said, or in his reply makes it appear that he has misunderstood him. Bobby is called upon to repeat, and to

[3] Mother Goose Melodies, edited by William A. Wheeler. Houghton Mifflin Company, The Riverside Press, Cambridge, 1878.

explain himself at length. Meanwhile his part of the game is not to get flustered.

The children are sent on errands about the school, the instructor exercising care that the difficulties of the situations are not too rapidly increased.

Relinquishing Signals. As the child improves in speech control he is permitted to relinquish the clicker. But at all times he must observe pauses, and speak in measured sentences. When control fails, the clicker or castanet is reinstated.

Games. Games involving eagerness and excitement are introduced when the children have acquired fair control of thought and emotion.[4]

Habit Drills. The speech work may well be supplemented with habit drills, as outlined in V. M. Hillyer's "Child Training."[5] The drills are intended to

[4] Bancroft, Jessie H. Games for Playground, Home, School and Gymnasium. The Macmillan Company, New York, 1919.

King, Myra. Language Games. Educational Publishing Company, Boston, 1909.

Deming, Alhambra G. Language Games for all Grades. Beckley-Cardy Company, Chicago.

A Brief Manual of Games for Organized Play. Children's Bureau Publication No. 113. Government Printing Office, Washington, D. C. Price 10 cents in coin.

Games and Other Devices for Improving Pupils' English. Bureau of Education Bulletin No. 43, 1923. Government Printing Office, Washington, D. C. Price 10 cents in coin.

[5] Hillyer, V. M. Child Training. A System of Education for the Child Under School Age. The Century Company, New York, 1915.

develop such mental faculties as attention and self control.

Evaluating the Work. And now at the conclusion of this chapter, let it be emphasized that there is no inherent virtue in the games and exercises. The therapy does not lie in the situations that we create to elicit speech, or in the means that we employ to direct conversation, but rather in the control that is exercised over the mental processes.

Speech must be slow and tranquil. It must be controlled by signals, first given by the instructor, and later by the pupil. Pauses must be adequate; they must allow time for the pupil to tranquilize his mind, formulate his thought, and take breath before speaking. When stammering threatens, the instructor must instantly stop him or immediately join him and carry him past the thought block. It is these procedures and safeguards that constitute the therapy, and not the games and exercises. Exercises could be omitted, if spontaneous and continuous speech were possible without them.

CHAPTER VII

Grade School Children

The work presented in this chapter is especially adapted to children in the middle and upper grades. Children in the first two or three grades may join the kindergarten class.

The underlying principles of speech correction are the same with grade school children as with kindergarten children. There is the rigid discipline of thought, the careful control with signals. Pauses are emphasized, so that emotions may be tranquilized and thoughts formulated. Thus the cardinal principles are those that we have already considered. However, the procedure is modified by the introduction of reading and silent speech; at the same time the general situation is altered by the ability of older children to sustain longer periods of conversation.

READING

The introductory work consists in reading. Each pupil is furnished with a copy of the book chosen for class work—preferably an adventure story, such as "Treasure Island," or "Life in the Greenwood." Several chapters are divided with heavy vertical marks, (*thought stops*) into short sentences and phrases

from four to eight words in length. In reading, the thought-stops serve as pauses, and the marks are regarded as mental walls beyond which the attention must not trespass. The pupil thus thinks and reads a sentence at a time. The marked pages provide measured reading for the first few weeks. Afterward the pupils are allowed to place their thought-stops mentally.

1. We begin with the simplest exercise—reading aloud in concert. The instructor directs the reading with a castanet, giving a quiet tap as a signal to proceed, and reading with the class in order to control the pace. At first the reading should be slow, slowness being effected by slightly elongating the vowels and not by making pauses between words and syllables. Pauses between sentences should be long and tranquil.

2. On the second or third day the pupils are allowed to read alone. For a period or two the instructor still gives the signals; afterward the pupils signal for themselves with the metal clickers.

When the pupils read alone, they are usually called upon by turn. Varying the procedure, the instructor may call the name of a pupil while the class is reading in concert. This pupil then continues to read while the others remain silent.

If a pupil stammers, the instructor promptly joins the reading and carries him past his thought block.

Fig. 13. The Pupils Read Aloud in Concert

Fig. 14. Fellow Pupils No Longer Hold Duplicate Books

Varying the procedure, the instructor may direct the class to join the reading when stammering threatens.

Aiding the Severe Stammerer. When stammering is of average severity, the pupils experience little difficulty in passing from group reading to individual reading. With severe stammering, intermediate steps may be necessary, in which case the following aids are available:

1. The pupils take turns in reading aloud; the other pupils meanwhile read in a whisper or in subdued and scarcely audible voices.

2. The instructor reads with the stammerer, signalling sentence by sentence. As the pupil gains in confidence, the instructor gradually withdraws, leaving the pupil to read by himself. At first the instructor drops for a word or two into silent or scarcely audible speech; later he omits whole sentences.

In withdrawing, the instructor does not drop into silence abruptly, leaving the pupil conscious of his isolation, but allows his voice to diminish gradually. There is then no definite point at which the stammerer finds himself alone.

As the pupil gains in confidence, he is allowed to read whole passages by himself. The instructor meanwhile remains alert, and joins him at the approach of stammering.

3. In the case of an unusually severe stammerer, it is possible to render even greater aid. It has al-

ready been pointed out that a stammerer can usually repeat a word or sentence that he has just heard (page 15). By combining this principle and the principle of reading in concert, we render double assistance, as it were. The procedure is as follows:

The instructor first reads a sentence aloud; he then re-reads it, and at the second reading the pupil joins him. As confidence and fluency are established, the instructor recedes at the second reading,[1] leaving the pupil to finish the sentence alone, and finally to read entire sentences without assistance.

4. The following procedure renders even greater aid. An assistant reads the sentence first; the instructor and pupil then repeat the sentence together. As the reading continues, the instructor gradually withdraws,[1] leaving the pupil to repeat alone after the assistant. The instructor comes promptly to the pupil's aid in case of difficulty.

5. In cases of extreme stammering, there is still another expedient available: The assistant reads the sentence aloud; the instructor and pupil repeat together, the instructor in vocalized speech, the pupil in silent speech. The instructor and pupil continue repeating the sentence together, and the pupil gradually builds up silent speech to vocal speech. When the pupil is able to read aloud with the instructor, the instructor gradually withdraws.[1]

[1] As described in paragraph 2.

Throughout these exercises the signals are given by the instructor with the castanet.

It is rare indeed that all of the expedients are used in making the transition from group reading to individual reading. But the transition must be made without loss of fluency, hence these supplementary measures are enlisted when necessary.

SILENT SPEECH

Often the transition from group reading to individual reading is most easily made when the pupil reads silently and builds up silent speech to vocal speech by the gradual addition of voice. Silent speech will be taken up at this point, since even the mild stammerer must learn the simple technique of its application. Silent speech consists of mere lip and tongue movements, without whispering and without voice. This phantom speech aids the stammerer by diminishing spasm of the speech organs, and thus permitting fuller attention to verbal thought.

1. At first the pupil reads a few paragraphs in silent lip movements. He signals each sentence with the clicker as though reading aloud. He must read slowly and carefully, with tranquilizing pauses. Attention must be bounded by thought stops, the pupil checking any tendency for the eye or the mind to glance ahead. In other words, the mental process is precise, just as in vocal speech.

2. After reading a few paragraphs silently, the pupil is permitted to add a word or two aloud at the end of each sentence.

3. The pupil is now called upon to build up his sentences from silent speech to vocal speech. He gives the first reading in lip-movements, then with repetition gradually adds the element of voice, so that shortly the entire sentence is given aloud. The transition from silent speech to vocal speech may be illustrated by the following lines, in which the light type represents silent speech, and the black type vocal speech:

War makes thieves and peace hangs them.
War makes thieves and peace hangs **them.**
War makes thieves and peace **hangs them.**
War makes thieves **and peace hangs them.**
War makes **thieves and peace hangs them.**
War makes thieves and peace hangs them.

This illustration is only approximate, for the black type does not portray the intensity of the vocal speech. With the first few readings the vocalized words may be scarcely audible, but they become louder with repetition.

The transition from silent speech to vocal speech may be made more rapidly or more slowly than the foregoing illustration depicts, the stammerer being guided in the matter by his feeling of assurance.

4. Finally the pupil is required to give the reading

aloud. If he stammers, the other pupils join him and carry him past his difficulty. Later he reads without the aid of fellow pupils holding duplicate books. If he encounters difficulty, he must drop back to silent speech, then return and build up the sentence by the addition of voice.

Pupils require a variable length of time to progress from the point of reading with a group to that of reading alone. Some pupils make the transition in a day or two; others require several weeks. Meanwhile, however, the work is not restricted to reading. After the first few days of the speech course other exercises are introduced.

PICTURES

From reading we proceed to the description of pictures. In this procedure the mental process is more complicated, for the pupil must now formulate his verbal thought instead of repeating prescribed words, as he does in reading.

A picture is set up before the class, and the pupil is asked to tell what he can about it. He may describe, elaborate, or interpret, as he sees fit. Meanwhile his speech is under the rigorous supervision of the castanet. He begins only when signalled, and speaks only a short phrase or sentence at a time.

When he has finished speaking, a protracted pause is allowed before he is signalled to proceed. When he

stammers, he is brought sharply to a halt with a snap of the castanet. After a quieting pause, the signal directs him to repeat.

To vary the routine of description, the instructor may ask a pupil, when he has described a picture, to improvise a title for it; or each boy in turn is asked to suggest a title. Discussion follows as to the merits of the various titles suggested. The pictures also prompt other discussions, which the instructor follows at his discretion.

The pictures are also used for a guessing game. A number of pictures are set out before the class. The instructor selects a picture in his mind and gives a clue to it by a comment, such as "I am looking at a picture that represents a formal occasion." The pupils then guess what picture he has chosen. They are not allowed to point or to say "this picture" or "that picture" or "the first picture," but must answer with description—"the picture of the wedding" or "the picture of the two people being introduced to each other." The game is then continued by the pupils.

When the pupils have acquired control under the supervision of the castanet, they are allowed to signal for themselves with the metal clicker.

Severe stammerers may have difficulty in speaking alone, both with the castanet and clicker. In this case the following intermediate steps are introduced:

Fig. 15. The Pictures Are Used for a Guessing Game

Fig. 16. The Pupils Are Blindfolded When Beginning Spontaneous Speech

1. The instructor describes a picture, sentence by sentence. On finishing a sentence, he signals, and the entire class repeats after him.

2. The instructor dictates a sentence, which each pupil repeats by turn. The pupils are signalled before speaking.

3. The instructor dictates a different sentence to each pupil. The pupil repeats after the instructor when signalled.

4. The pupil now describes the picture for himself. He does so in silent speech. At first the instructor gives the signals; later the pupil signals with the clicker.

5. The pupil is permitted to add a few words aloud.

6. Each sentence is built up from silent speech to vocal speech.

7. The description is given aloud from the beginning. The pupil resorts to silent speech in case of difficulty, but he then retraces his steps and builds from silent speech to vocal speech.

8. The instructor may employ any of the aids already mentioned under Reading (pages 81–82).

SPONTANEOUS SPEECH

In spontaneous speech the pupil is furnished neither with verbal imagery as in reading, nor with visual imagery as in describing pictures. He is asked a question or given a subject to discuss, and he must

marshal his own visual images and formulate his own verbal thought.

The Hoodwink or Blindfold. The pupil is hoodwinked or blindfolded when beginning the work in spontaneous speech. The purpose of blindfolding is to narrow the field of consciousness and permit the attention to be focussed more sharply upon inward speech. The stammerer is learning to listen for words in his mind, and to speak by thinking aloud. The hoodwink facilitates this mental process. When, later, the hoodwink is discarded, the pupil may assist concentration by closing the eyes.[2]

Ordinarily the hoodwink is used from 15 to 20 minutes at a time. Young children are likely to become restless if blindfolded for an entire period. The blindfold is used for 2 or 3 weeks when spontaneous speech is first introduced. Afterward it may be employed when the class is inattentive. It is helpful in this situation, for it emphasizes the need for concentration on mental speech.

Enumeration. Spontaneous speech begins with the simplest exercise available—enumeration. The pupil is asked to name, for example, all the trees he can think of. He names them one at a time, clicking before each word, and allowing quieting pauses after

[2] Hoodwinks can be purchased from The Lilley Company, Columbus, Ohio.

speaking. If a word presents difficulty, he gives it repeatedly in silent speech, then gradually adds the element of voice.

Enumeration is not an interesting exercise, but it enables the severe stammerer to make an easy transition to spontaneous speech. A short list for enumeration follows:

Give the names of:

animals
birds
fishes
flowers
trees
mountains
rivers
countries
capitals of countries
cities
states
railways
books
magazines
newspapers
authors
automobiles

Chain Games. Chain games, which consist of little more than enumeration, are played in a number of ways. In the game of Picnic, the first player says, "I am going on a picnic, and I shall take some sandwiches." The next player says, "I am going on a picnic, and I shall take some sandwiches and hard boiled eggs." The third player adds another item, "sandwiches, hard boiled eggs, and pickles." The game continues in this manner, each player adding something by turn. The series of items should not be unduly extended, for nothing is gained by fatiguing the attention.

The chain principle is applied to other games.

"When I went to the circus I saw a lion." "When I went to the circus I saw a lion and an elephant."

"I am going to the toyshop to buy a kite." "I am going to the toyshop to buy a kite and a pair of skates."

"I am packing my trunk for a journey. I am going to take a suit of clothes." "I am packing my trunk. I am going to take a suit of clothes and some handkerchiefs."

"The lion is fierce." "The lion is fierce, large, and hungry."

Chain games are best adapted to the lower grades. Younger children play them with enthusiasm; older children find them tedious.

In these games one often detects stammering in visual thought. A pupil may say, for instance, "I went to the circus and saw a lion, an elephant, and a . . . ." He stops at this point, not having visualized an animal before beginning to speak. His carelessness in thought is reflected in the break in speech, though not in actual stammering.

Questions. The pupils ask each other questions by turn. For instance: "Who was the first President of the United States?" "What is the capital of England?" "What is the name of this town?" "What is the population?"

Although seemingly just as simple as enumeration,

this exercise is more likely to induce stammering for the reason that it introduces an emotional element. The stammerer is more likely to be embarrassed when meeting a question than when naming objects.

Characters. The pupil is asked to tell something about a great man or well known character. The instructor assigns the characters, or the pupils choose characters for themselves or name them for each other. When the boys name the characters, the game is likely to resolve itself into a discussion of movie stars and baseball players. This is permissible, since primary interest is speech, rather than biography.

The following list of characters can be extended indefinitely:

Tell me something you know about:

Caesar	Abraham Lincoln
Napoleon	Marshal Foch
Christopher Columbus	Robin Hood
Alfred the Great	Robinson Crusoe

Uses of Things. Tell three uses that are made of:

iron	water
coal	rope
wood	leather
cotton	glass
silk	paper
tin	wire
brass	celluloid, etc.

Differences and Resemblances. The pupil is asked to give the differences between two things; then the resemblances between them. Or the two tasks may be given to two different pupils. The following brief list is given by way of suggestion:

horse—cow	door—window
butterfly—fly	pencil—pen
glass—wood	knife—fork
fish—bird	fork—spoon
cat—dog	cup—saucer
lion—tiger	wire—string
hawk-sparrow	needle—pin
chair—table	typewriter—sewing machine
book—newspaper	trombone—cornet
ceiling—wall	fiddle—flute
carpet—linoleum	sunflower—daisy
hat—cap	oak—holly
tree—bush	grass—clover
fire—flood	fence—gate
water—ice	train—streetcar

Answers should be simple and spontaneous, and without attempt at formal and elaborate discussion. For instance: "What is the difference between a butterfly and a fly?" "The butterfly is bigger and has prettier colors. It doesn't come in the house, and fly on you the way a fly does." Resemblances: "The fly and butterfly are like each other because they both have wings and fly in the air. They come in the summer, but not in the winter."

The clicker is, of course, used for each phrase and sentence.

Give Me a Sentence. A word is assigned to the class, and each pupil composes a sentence with the word in it. Again simple answers are acceptable, and no attempt need be made at formal and dignified response.

The word "brick" is given, and the following sentences are elicited:

"Bricks are made of clay."
"Bricks can be used for building houses and churches."
"We saw an accident near the brickyard."
"Bricks are stuck on top of each other to make a wall."

The game is varied by having one pupil assign a word to the next. When the second pupil has composed a sentence, he assigns a word to the third, and thus the game continues.

Description. The pupil is asked to describe a familiar thing as though he were telling a blind man or someone who had never seen it.

"What is an aeroplane?" "An aeroplane is a machine that can fly. It has wings like a kite and an engine that makes it go."

"What is a (an):

railroad train?	door
fire engine	football
streetcar	bicycle
book	knife
pencil	hammer
pen	sundial

chair	thermometer
coat	violin
brush	pocketbook
tire	pistol
can opener	pipe
shoe	funnel
fence	chimney
drinking fountain	steam engine
mouse trap	rudder
eggbeater	port hole
nutmeg grater	fountain pen
clock	balloon
tire chain	lion
newspaper	tiger
stepladder	ostrich
fishing pole	snake

Mechanical objects, such as aeroplanes, fire engines, and locomotives have a special interest for boys, and they describe them with zest. Animals also make a strong appeal to the boy mind.

Paraphrasing. In the reading exercises a pupil is called upon to give in his own words the substance of a paragraph that another pupil has just read.

Paraphrasing is also used as a formal exercise. Pupil No. 1 reads a story from a book of anecdotes. Pupil No. 2 tells the story in his own words. Pupil No. 2 then takes the book and reads a story for Pupil No. 3.

Narrative and Discussion. A pupil is asked to tell about a book he has read, a moving picture he has seen, a journey he has made, or an adventure he has

experienced. The following topics were chosen by sixth grade boys:

The swimming pool at the Y. M. C. A.
The zoo
A bear cub at the zoo
A fight
A wrestling match
A Scout meeting
A camping trip
An automobile trip
A fire
A visit to my grandfather's farm
My brother's police dog
The time I fell in the river
A football game
The movie we went to last night
The circus
A picnic
What I did last summer

These recitals may be followed by general conversation. The boys wish to know about the fight and the fire, and accordingly we arrive at spontaneous speech. In asking questions of the speaker, the pupils take turns or raise their hands till called upon by the instructor.

Conversation. Narrative, as described above, is of course a form of conversation. The instructor can also elicit conversation with appropriate questions: "George, tell me the way to the railroad station." "What are some of the things I would see if I went

down Broadway?" "What are you going to be when you grow up?" "Why would you rather be an architect than a lawyer?" "What is your favorite game; how is it played?"

The exercise should not be a mere exchange of phrases, but conversation should be natural and spontaneous. Here the instructor's personality plays an important part.

Anecdotes and Riddles. The pupils tell anecdotes and ask riddles. This exercise is reserved for advanced work, for a pupil is likely to stammer when he becomes excited in telling the point of a joke or the answer to a riddle.

Unfinished Sentences. Pupil No. 1 gives part of a sentence, which Pupil No. 2 is required to finish. Pupil No. 2 then begins a sentence which is finished by Pupil No. 3—and so on.

No. 1: As I was coming to school—(*No. 2*) I saw an automobile wreck.

No. 2: As I was about to shoot the bear—(*No. 3*) the bear fell over dead.

No. 3: When I went fishing the other day—(*No. 4*) I fell in the river.

Serial Stories. George begins a story, carries it to a certain point, and passes it to Fred to continue: "Once there was a haunted house which was next door to a graveyard. An old woman lived in the house and people said she was a witch. She wasn't

seen very often because she came out only at night. One night just as the moon was rising—."

At this point George turns the story to Fred, who improvises further.

The Minister's Cat. The cat is described with various adjectives, which in the first round commence with the letter "a." "The minister's cat is an amiable cat." "The minister's cat is an awful cat." "The minister's cat is an antique." In the second round the adjectives begin with "b," and so on through the alphabet.

The pupils are allowed to vary the phrasing, naming instead of the minister's cat, the butcher's cat, my grandmother's cat, etc.

What is My Thought Like? The leader asks the players by turn "What is my thought like?" Not knowing his thought, they answer at random, the first guessing a tennis racket, the second a chair, the third a tree. The leader replies that he thought of a hair brush. Player No. 1 must then find some resemblance between a tennis racket and a hair brush; No. 2 between a chair and a hair brush; No. 3 between a tree and a hair brush.

No. 1 may reply that a tennis racket and a hair brush are alike because they both have handles. No. 2 may say that a chair and a hair brush are both made of wood. No. 3 may suggest that a hair brush is bristly and a tree also is bristly.

GUESSING GAMES

The purpose of the guessing game is to introduce eagerness and excitement, and to confront the pupil with situations requiring emotional control. Obviously this is advanced work, and games should not be employed till the pupils have mastered easier tasks. They should understand that the cardinal requirement is control of thought and emotion, and that whoever gets rattled or excited is the loser, even though he may guess correctly.

"*I See.*"

First Pupil: "I see something you may see."
Second Pupil: "Pray what color may it be?"
First Pupil: "It is black."

The pupils then look about the room to find what the leader thought of:

"Is it the book lying on the desk?"
"Are you thinking of the box over there on the table?"
"Is it the blackboard?"
"Is it John's shoes?"

The pupil who guesses correctly becomes leader, or the pupils take turns as leader, according to the plan agreed upon.

Principles of thought control are strictly observed. The clicker is used for every sentence. Silent speech is employed when necessary, and the pupil takes as much time as he wishes to build silent speech to vocal

speech. As before, the situation is dominated by the instructor's signals. At the snap of the castanet the pupil comes sharply to a halt. He then remains silent till signalled to repeat or to proceed.

Proverbs. George leaves the room and the class chooses a proverb. The instructor assigns a word of the proverb to each pupil, omitting "a," "the," "and," etc.

When George returns, he addresses Player No. 1 with a question. The player, in answering, must use the word assigned to him:

Proverb: A rolling stone gathers no moss.
Assigned Word: Rolling.
Question: "When did you come to school this morning?"
Answer: "Oh, I came rolling in about eight thirty."

By questioning the players in this manner, George guesses the proverb.

The weakness of the game is that the proverb is usually too obvious. This is especially so, since grade school children are familiar with very few proverbs. The game can be improved by including proverbs in the reading and thus enlarging the scope of the players' information.

Animal, Fish, or Bird. Fred begins the game with the statement "I am thinking of a large fish." George is allowed to ask one question before guessing:

"Does it live in rivers?"
"No, it doesn't."

"Is it an octopus?"
"No, it doesn't even look like an octopus."

The other players inquire and guess by turn:

"Is it a fresh water fish?" "Is it good to eat?" "Does it attack people?" "Has it a sword?" etc.

Finally the matter is narrowed down, and someone guesses correctly that Fred thought of a shark. The game then proceeds with a new leader.

Hiding and Finding. John leaves the room, and the leader hides a pocketknife. When he is called back, he asks questions instead of looking for the knife.

"Is the knife hidden in the desk?"
"No, we didn't put it there."

"Is it behind the clock?"
"It would do no good to look there."

"Is it in this half of the room?"
"Now you're getting warm." Etc.

Begins with "A." Fred leaves the room. He is called back and is told that the class has thought of something beginning with "A." He asks questions till he discovers what was thought of:

"Is it something in this room?"
"No, there are none here today."

"Is it something that people wear?"
"No, you couldn't wear it."

"Is it a piece of furniture?"
"No, it isn't made of wood."

"Is it good to eat?"
"Yes, it is very good indeed."

"Is it an apple?"
"Yes, we thought of an apple."[3]

What Is It? George is sent from the room, and the class chooses something for him to guess. There are no restrictions, such as "beginning with a," etc. George returns and questions the players. If his task proves difficult, he is given clues in the answers.

"Is it something in this room?"
"No, it isn't here."

"Is it something that belongs to someone here?"
"No one here could afford to buy it."

"Is it something in this town?"
"Yes, it is in Denver."

"Is it outdoors or indoors?"
"The outside is outdoors and the inside is indoors."

"Is it a building?"
"Yes, we chose a building."

"Is it the postoffice?"
"Yes, we thought of the postoffice."[4]

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[3] This exchange of questions and answers is of course abbreviated.

[4] The above exchange of questions and answers is of course abbreviated.

I am He; I am Not He. Fred sits facing the class, and the boys question him about himself.

"Who is the boy with the red tie?"
"I am he."

"Who is the boy in the same grade that I am in?"
"I am not he."

"Who is the boy with the black book on the table behind him?"
"I am he."

Fred is caught by this question, as there is no book on the table. He accordingly gives up his place to the pupil who caught him.

The game is not suited to all classes, for it hangs fire if the players are not original and alert with their questions.

RATTLING

Rattling or heckling is introduced when the pupils have established a fair degree of speech control.

The instructor interrupts the reading, narrative, etc., by asking questions. Later a leader is assigned to rattle his fellow-pupils as they read and recite. The heckler may ask bona fide questions, may challenge statements, or introduce any expedient—short of personal violence—to confuse the speaker: "How do you spell that word?" "Well, don't you know how to pronounce it?" "That isn't the way you pronounced it yesterday." Argument ensues, and both boys are

likely to get rattled, unless they control thought and feeling.

The procedure may be varied by allowing any pupil to ask a question or challenge a statement. In this case the questioner must raise his hand till called upon by the instructor.

Rattling is a splendid exercise for advanced work, but excitement must be kept within bounds. The game is intended to afford an opportunity for the exercise of emotional control, therefore the pupil must be sure that his emotions are tranquilized before he speaks, and he must be prompt to obey the instructor's stop signals.

CLASS WORK

It is not to be inferred that the foregoing exercises and expedients must necessarily be followed in the form of an inflexible schedule. The general progress of the work should be in accordance with the plan that has been outlined, but as the work advances and the instructor becomes acquainted with his class, he can vary the work to suit their needs and interests. On no account, however, should the mental drill with the castanet and clicker be curtailed, for this phase of the work constitutes the foundation of speech training. The matter of organizing the work will be discussed more fully in Chapter IX.

CHAPTER VIII

Adults and High School Students

The principles of speech correction are substantially the same with adults as with children. The basis of therapy is thought training. The training coördinates the mind, and the mind coördinates the speech.

The task of speech training is more difficult with adults than with children. This is so because thoughts have remained undisciplined for two or more decades, and at slight provocation they break rank and flee in panic. Then again, we have the problem of "spasm" and contortion. These features of stammering have endured for so long that they now persist through association, and may manifest themselves whenever speech is attempted.

But in spite of these difficulties the task of speech correction is not insuperable, and the adult stammerer can secure a large measure of control, even though perhaps unable to escape speech difficulty entirely.

The pupil should be thoroughly conversant with the theory of stammering. He then knows the source of his difficulty and the nature of the task that confronts him; consequently he makes an intelligent approach to the problem, and places his reliance upon himself and not primarily upon the instructor. The

adult pupil, then, should be familiar with Part I of this book before attempting to apply the principles presented in Part II.

The class work again falls into three phases:

I. *Reading.* In reading the pupil is furnished with verbal thought.

II. *Description of Pictures and Cartoons.* The pupil is supplied with visual imagery, but formulates verbal thought for himself.

III. *Narrative, Discussion, etc.* The pupil furnishes the visual imagery as well as the verbal thought, the situation thus being the natural one for spontaneous speech.

READING

The procedure is identical with that outlined for grade school children (pages 79–83). A suitable class book is chosen, and several chapters are marked with thought stops. Reading progresses from group work to individual work, in accordance with the following scheme:

1. The class reads aloud in unison. The signals are given by the instructor.

2. The pupils read aloud by pairs. Signals by the instructor.

3. The pupil reads alone, but reads silently. He may give his own signals.

4. The pupil reads silently, but adds a word or two

aloud at the end of the sentence. He increases the proportion of vocalized speech as his confidence increases. He clicks his own signals.

5. He builds up each sentence from silent speech to vocal speech.

6. He reads aloud from the beginning, clicking his own signals. The instructor and fellow-pupils join the reading when stammering threatens.

7. The pupil reads alone, and the class no longer hold duplicate books. He resorts to silent speech at the approach of difficulty, but in this event he returns and builds silent speech to vocal speech.

It is feasible to omit a number of the foregoing steps when the pupil is capable of rapid progress. Often the stammerer can be brought in a few days to the point of reading by himself. On the other hand, the severe stammerer may experience difficulty in making the transition, and may require the aid of further intermediate steps before being able to read alone. In such cases the following expedients are available, the paragraphs appearing in the order of the increasing support that they afford. It is only in the most severe cases that any but the first expedient will be necessary.

8. The instructor reads aloud with the pupil, but omits a word or phrase here and there, and eventually leaves the pupil to read alone.

9. The instructor first reads the sentence aloud.

He then re-reads it, and the pupil joins the second reading.

10. An assistant first reads the sentence aloud. The instructor and the pupil then repeat together. Gradually the instructor withdraws, leaving the pupil to repeat alone.

11. The instructor repeatedly reads the same sentence aloud. The pupil joins him in silent speech, and gradually changes to vocal speech. When the pupil is able to read aloud with the instructor, the instructor withdraws, first dropping a few words, later omitting whole sentences, and finally leaving the pupil to proceed alone.

12. An assistant reads a sentence aloud. The instructor and pupil repeat together, the instructor reading aloud, and the pupil silently. The instructor and pupil continue repeating the sentence together, and the pupil gradually builds up silent speech to vocal speech. When the pupil is able to read aloud with the instructor, the instructor gradually withdraws.

Even with mild stammerers the entire first week should be devoted to reading. Afterward there should be some reading in each period for at least a month or six weeks. During this part of the speech course the reading should be marked with thought stops, not because the pupil cannot read without them, but because he needs to have impressed upon his mind

the importance of placing stops in his verbal thought. Toward the end of the course he may read unmarked pages, for he will now have acquired the habit of placing his stops mentally.

PICTURES AND CARTOONS

The pupil is given a cartoon and asked to discuss it.[1] He begins with a reference to the source from which the cartoon was taken, then continues with a description of the drawing, and closes with the interpretation. For example: "This cartoon by Orr appeared recently in the Chicago *Tribune*. The drawing shows the conventionalized pictures of Uncle Sam and John Bull, who are engaged in a heated argument," etc.

Illustrated advertisements may be used as well as cartoons. The pupil is then asked to give some of the reading matter, in addition to his description of the drawing.

Pictures and cartoons are first discussed in silent speech. The element of voice is added as the work proceeds (paragraphs 4, 5, 7, pages 105–106).

Other expedients are available for assisting the severe stammerer:

1. The instructor describes the cartoon a sentence at a time. When signalled, the entire class repeats the sentence after him.

[1] Cartoons are cut from magazines and pasted on cards. Suitable cartoons can be found in the *Literary Digest*, *The American Review of Reviews*, *Current History*, *The Outlook*, etc.

2. Each pupil by turn repeats the same sentence after the instructor. The instructor gives the signals.

3. The instructor dictates a different sentence to each pupil. The pupil gives the sentence when signalled by the instructor.

4. The pupil now describes the picture himself. He begins with silent speech, and later adds the element of voice. He signals for himself with the clicker.

5. The pupil gives the description aloud and resorts to silent speech when he encounters difficulty. He then returns and builds silent speech to vocal speech.

During any phase of the work the pupil may read aloud and describe pictures aloud in the privacy of his own room, for in this environment stammering is little likely to occur. However, in class work, the advance should be cautious, new tasks being undertaken only as they are warranted by increasing speech control.

SPONTANEOUS SPEECH

When spontaneous speech is introduced, the pupil is blindfolded in order that he may focus attention more sharply upon inward speech. As confidence and fluency increase, the hoodwink is discarded, but when necessary the pupil may close his eyes to assist concentration upon the word-sounds within his mind.

1. When spontaneous speech is first introduced, the

pupil speaks silently. He clicks for himself at each phrase or sentence.

2. Shortly he adds a word or two aloud at the end of the sentence. As he progresses, he increases the proportion of vocalized speech.

3. Eventually, by repetition, he builds up each sentence from silent to vocal speech.

4. Finally he speaks aloud, and resorts to phantom speech only to avert difficulty. After giving a phrase silently, he returns and adds the element of voice.

With spontaneous speech, the exercises are similar to those employed for grade school children, the necessary modifications being made to render the work appropriate to maturer minds.

Enumeration. Give names of:

countries	authors
capitals	books
cities	flowers, etc.

Towns. The pupils name towns by turn. Each pupil must take for the initial letter of his town, the final letter of the town named by his precedessor: Denver, Reno, Ottawa, Albany, etc.

Uses. Give various uses for:

steel	wood
copper	mica
brass	glass, etc.

Biographies. Tell what you know of:

Abraham Lincoln	Charles Dickens
Herbert Gladstone	Rembrandt
Mendel	Christopher Columbus, etc.

Words and Sentences. A keyword is given by the instructor, and each pupil gives a sentence containing the word. Varying the procedure, the pupils pass keywords to each other.

Unfinished Sentences. Pupil No. 1 begins a sentence; Pupil No. 2 finishes it. Pupil No. 2 then begins a sentence for Pupil No. 3.

Description. Describe a (an):

locomotive	arrow
aeroplane	centrifuge
dynamo	lathe, etc.

Questions. Questions on various subjects are asked and answered. One pupil puts a question to each fellow-pupil by turn; or each pupil, on answering a question, interrogates his neighbor.

Narrative, Discussion. By turn the pupils relate adventure, travels, experiences, etc.

Anecdotes, Riddles. Riddles and anecdotes are told by each member of the class.

Serial Stories. The first pupil begins a story; the others continue it.

What is My Thought Like? The game is explained in detail on page 97.

Guessing Games. The leader leaves the room while the class confers. On his return he questions them to ascertain what person or proverb or object they thought of. (For details of these games see pages 98–101.)

Speeches. The pupil is required to rise and address the class. He is given a topic for extemporaneous discussion, or a subject is previously assigned for preparation. The topic should be broad, so that various aspects may be discussed. The following list of topics can be extended indefinitely:

Discuss:

Advertising	Transportation
Travel	Farming
Education	Reading
The Great War	Health
Outdoor sports	Science, etc.

The pupil is hoodwinked at the beginning of this work. He resorts to silent speech when necessary.

Rattling, Heckling. Heckling begins with questioning and interrupting. Later more aggressive and persistent attempts are made to confuse the pupil. There are challenges, contradictions, and arguments. The pupil may be called upon to look up words in the dictionary or to verify facts in an encyclopedia, etc. While speaking, he may be called to the telephone. On returning he finds the class waiting for him to resume his discussion.

Fig. 17. The Pupil is Blindfolded While Making an Address

Fig. 18. At the Approach of Stammering, the Pupil Depresses the Receiver Hook

Fig. 19. The Pupil Talks Into a Recording Machine

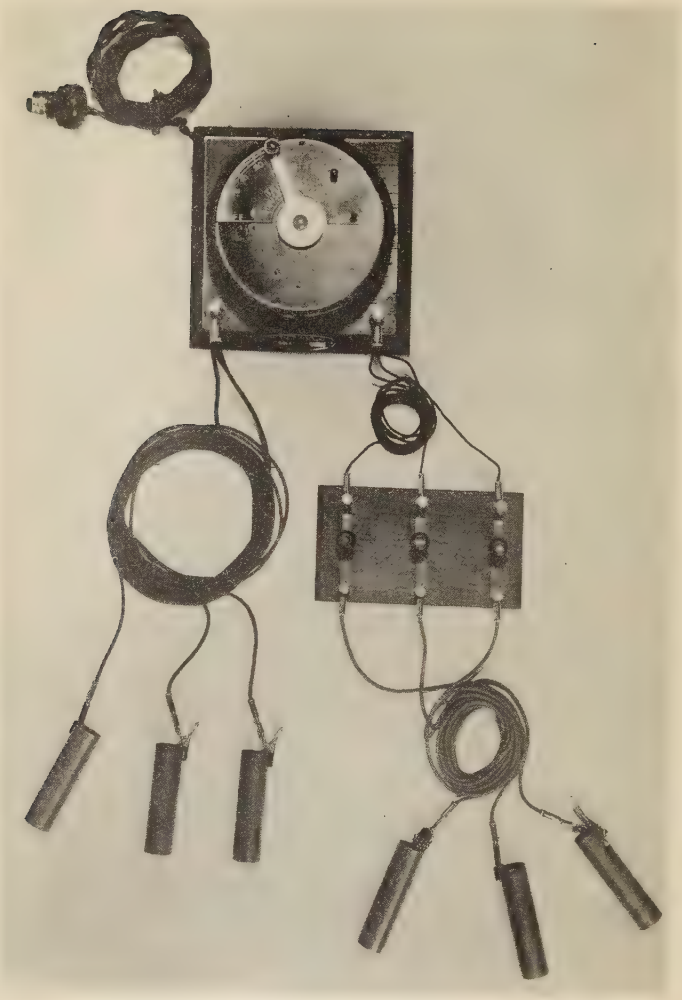

Fig. 20. Apparatus for the Electric Shock

MERGING SITUATIONS

An easy situation is merged into a difficult situation in order that the fluency of the first situation may be carried into the second. We have already encountered this principle in reading. It will be recalled that in the early work in reading, the instructor read with the pupil to carry him along. He then withdrew as the pupil gained confidence. If the pupil stammered, he immediately joined the reading, and restored the original situation. The principle of merging is thus already familiar to us. We now present other applications of the principle.

Telephoning. The average stammerer can speak fluently in the privacy of his own room. He may talk without stammering even with the door open, provided there is no one in the hall outside. But at the approach of footsteps he immediately encounters difficulty. Here are two similar situations, one easy and one difficult. Unfortunately they cannot be readily merged; hence we must seek comparable situations, in which merging is possible.

The solution is offered by the telephone. When alone, the stammerer can talk fluently into the telephone if he does not take up the receiver, or if he takes up the receiver, provided he keeps his finger on the hook and maintains a barrier of seclusion. In an actual telephone conversation, however, he stammers. Here, then, are situations suitable for merging, for

the pupil can isolate himself by a mere movement of a finger. The following is the procedure in speech work:

Two pupils in separate rooms converse together by telephone. At the approach of stammering a pupil depresses the receiver hook and continues his conversation in private. He releases the hook when he has passed the difficult point in speech. He may vary the procedure by repeating the difficult sentence a number of times alone, then lifting the hook while speaking. In this instance he preserves the continuity of the conversation with his companion.

The Dictaphone. A similar situation is secured when the pupil speaks into a talking machine, such as the Dictaphone,[2] Ediphone,[3] Telegraphone,[4] or Record-O-Phone.[5] The machine[6] starts or stops at the pressure of a button. The pupil reads or speaks into the mouth piece, but stops the machine when difficulty threatens. He then repeats the sentence several times, and starts the machine at the beginning of a

[2] The Dictaphone Sales Corporation, 154 Nassau Street, New York City.

[3] Thomas A. Edison, Incorporated, East Orange, New Jersey.

[4] American Telegraphone Company, 179 Dwight Street, Springfield, Mass.

[5] Record-O-Phone Company, 219 Southern Building, Washington, D. C.

[6] The Ediphone and Dictaphone are recommended in preference to the Telegraphone and Record-O-Phone.

repetition. In this manner he maintains a fluent record.

The recording machine is especially valuable since it offers a situation intermediate between solitary speech and telephone conversation. When the pupil talks to the machine, he is not talking to a fellow human being, but to a wax cylinder. Nevertheless, the speech is afterward to be reproduced, and thus indirectly he is talking to human ears. For this reason, the machine challenges the pupil's tranquility.

The Absent Audience. Situations are merged by still another expedient. The pupil is blindfolded and led into a room, seated in a chair, and requested to address an imaginary audience—extemporaneously, or on a subject previously prepared. At first he is given assurance that when the instructor leaves, he will be alone. After three or four repetitions of this procedure, he is told that he may now have an audience at any time, but that he will not be told when the audience is present. Later he is informed that he *has* addressed an audience. Upon another occasion, when he has spoken fluently, the hoodwink is removed, and he is introduced to the visitors.

The work continues, but he is now uncertain whether he has an audience or not. He hears a chair move or a book fall, but afterward is told that the sounds were produced mechanically and that his fears were groundless. Later he has genuine occasion for

embarrassment, for he hears a cough or a whispered conversation. Even under these circumstances, he need not become perturbed, for he is allowed to sit in silence to regain his composure, or he may temporarily continue his discussion in silent speech.

These situations can be developed further. The hoodwink is discarded, and the pupil speaks in a room divided by a curtain. There may or may not be an audience beyond.

Later the curtain is raised a short distance, and the pupil sees his audience partially, but does not meet them eye to eye.

Still later he meets his audience, and encounters their questions at the close of his discourse.

When speech difficulty threatens, he remains silent till he has controlled his emotions. If he prefers, he may resort to silent speech, then return and add the element of voice.

ELECTRIC SHOCK

With the consent of the pupil, a punitive electric shock is given to check careless habits of speech, such as hurried inspiration, frequent change of sentence construction, the use of starters, etc.

The electrical device consists of a MacLagan sinusoidal controller[7] or a coil and battery. The appara-

[7] The MacLagan Sinusoidal Controller is made by the McIntosh Battery and Optical Company, Chicago. Cost about $15.00. Switchboard by local electrician.

tus is provided with several pairs of wires and handles. The pupils take the handles and proceed with the speech exercises assigned. Whenever stammering occurs, it is rebuked with an electric shock.

The expedient is helpful to the inattentive stammerer of the habitually careless type. However, the procedure is intended as a temporary one, and it should not become a major feature of the speech work.

In using the electrical apparatus for a group, difficulty arises from the fact that the pupil with moist hands receives a stronger shock than the pupil with dry hands. The current is therefore adjusted for the moist-handed pupil, and the shock is equalized by wrapping the electrodes for the dry-handed pupil with moist gauze.

With the MacLagan sinusoidal controller the current should be about 25 volts. As a disciplinary measure it may at times be stepped higher.

MIRRORS AND MOVING PICTURES

Occasionally the stammerer is unaware of idiosyncrasies, such as facial contortion, head-jerking, etc. These traits can be brought to his attention by placing him in front of a mirror or by photographing him with a motion picture camera.

The use of the mirror should not be continued after it has served the purpose of bringing a particular point to the pupil's attention. The stop-signal is then employed to remedy the defect.

CHAPTER IX

The Instructor

This chapter reviews the rôle of the instructor in directing the speech work described in the preceding chapters.

THE CLASS

The number of pupils in the speech class may vary from two to six. Four is an ideal number.

With the kindergarten class, a period should consist of 30 or 40 minutes; when the work is continued beyond this point, young children become restless and inattentive. An hour's instruction is preferable for older children and adults.

Late comers should not be admitted to a class that has already made substantial progress. It is not feasible to conduct elementary and advanced work simultaneously, and it is better not to attempt the two grades of work in the same class.

PROGRESSION OF WORK

The rate of progression from simple to difficult tasks is a thing that cannot be determined by general rule. The severity of stammering varies with different groups of pupils; and improvement often bears no

relation to the original severity; hence the instructor must determine the progression of tasks as the work proceeds.

At the outset the principles of thought control are made obvious by signals and thought stops. Accordingly the conception of control is often grasped immediately, and pupils may be able to perform simple tasks, such as reading, in the course of a few days. They are then permitted to proceed to the description of pictures, and shortly to spontaneous speech. Often a class is ready for difficult tasks after two or three weeks of speech training.

On the other hand, progress is sometimes slow—especially with adults—and it may be necessary to spend a month or more on elementary work.

Whatever the rate of progress, the clicker should not be discarded till the course is well advanced. The clicker compels thought control and it should be retained till the habit of control has become ingrained in the pupil's psychology.

A point is here to be noted. Before speech control is well established, stammering is often found to vary from day to day. A pupil may speak well on Tuesday and badly on Wednesday. This variability is characteristic of stammering, and should not be attributed solely to caprice.

LENGTH OF COURSE

What amount of time is to be given to the speech course? This depends upon the age of the pupil, the severity of the stammering, and the response to training. There will be different classes for children of different ages, and different classes for mild and severe stammerers. The response to instruction will not be uniform with these different groups.

Speech work in the schools naturally begins with the opening of the school year. Classes should meet for at least a period a day for three months. If the pupils are then talking well, in class and out of class, instruction may be curtailed to two periods a week. The two periods should then continue for the balance of the year.

If the work begins late in the school year, it will be advisable to arrange summer classes, otherwise partial relapse may occur during the vacation period.

SIGNALS

The instructor's signals are uniformly given with the castanet, and on no account should substitute signals be employed, such as tapping the table with a pencil, tapping the floor with the foot, etc.

It might seem to one's casual thinking that any form of signal would be acceptable; yet this is not the case. In a measure we are dealing with a conditioned

reflex, and we cannot change the stimulus without the risk of changing the reaction.

A conditioned reflex might be compared to a psychological setting. Soldiers are trained to start and stop at the commands "March" and "Halt." Other terms would be equally comprehensible; for instance, "Stop" and "Go Ahead," but the use of unaccustomed commands would demoralize a regiment.

Signals should not be supplemented by remonstrance, such as, "Now, John, you're going too fast. What did I tell you yesterday?" Expostulation directs attention to the instructor, while signals direct attention to the pupil's speech.

When the castanet[1] is first employed, it may seem clumsy and inarticulate. However, if the string is properly adjusted to the finger, the contrivance becomes fluent and expressive after a little use. The string should be slipped down to the root of the middle finger; it is then easy to snap the shells together. At first the shells may be allowed to hang from the hand; then, as one becomes accustomed to them, one can hold the castanet in any position.

In signalling, a light tap of the castanet gives the command to speak. A sharp snap brings the pupil to a halt. Two light taps command him to repeat. The signals are made expressive, and the command to halt

[1] Castanets can be purchased at music stores.

is given with a degree of emphasis appropriate to the occasion.

By the use of signals the instructor enforces pauses of sufficient length to enable the pupil to formulate his thought. In the game of moving, for instance, the child is given time to examine the furniture of the doll's house, to choose the piece of furniture he wants, and to put his thought into words. As far as possible, the nature of the mental process should be anticipated, and pauses gauged accordingly. Signals should never be given mechanically, one upon another, without reference to the thought in the child's mind.

The pupil is not expected to start instantly at the signal, much as one would jump at the gun in a hundred yard dash. If the signal is given too soon, the pupil may take additional time to quiet his emotion and formulate his thought. On the other hand, he must never anticipate a signal and speak before the command is given.

The pupil must come instantly to a halt in response to the stop signal. This is not always easy, for his confusion and pressure of activity constitute a mental obstacle. Yet the pupil must be drilled at the very outset to obey signals faithfully. If he fails repeatedly to observe the stop-signal, he is drilled in stopping for several periods. In this drill the stop-signal is given without relation to stammering.

Throughout the speech course the pupil is stopped

whenever he stammers. He is also stopped when he makes false starts, for a change of sentence construction shows that his thought was not formulated when he commenced to speak. He is checked when he uses starters and wedges, such as "why," "well," "let's see," etc. He is likewise halted when the experienced eye of the instructor detects signs of impending stammering, such as restless movements of the body, altered respiration, altered pitch of voice, accelerating speech, wavering or hovering enunciation, change of facial expression, fixity of gaze, etc. When the pupil is stopped at this strategic point, he views a cross section of his mental processes, and his thought control is facilitated.

After one or two weeks of drill with the instructor's signals, the pupils usually acquire a measure of speech control, and can be permitted to signal for themselves with the metal clickers.

When a pupil signals for himself, he does so to define to his mind the fact that he has tranquilized his emotions, formulated his thought, and taken breath, preparatory to speech. He should therefore speak immediately, and without the delay that is allowable when the signal is given by the instructor. The instructor cannot ascertain when the pupil's mind is ready, hence delay may follow his signal; but the pupil himself can determine the readiness of his

mind, and he should give signals only when he is prepared to honor them.

Even though the pupil may be clicking for himself, he is always under the dominance of the instructor's castanet. When he stammers, he is brought sharply to a halt. He must then remain silent till signalled to repeat or to proceed. If his control becomes demoralized, he may be required to follow the instructor's signals for the rest of the period.

The pupil is allowed to speak without the clicker when he has made considerable progress in thought control. He may elect at the beginning of a period whether he will speak with signals or without them. If he chooses to speak without signals, it is on the understanding that the clicker, or even the castanet, will be reinstated if he loses control.

The privilege of speaking without the clicker should not be accorded too soon. The pupil must first learn the habit of placing mental thought stops, and must speak from sentence to sentence without stammering and without frequent changes in sentence construction.

The clicker and the castanet are drillmasters, and it is through their commands and that the pupil gains control of speech.

Signals are, beyond all questions, the most valuable single aid in the correction of stammering.

ASSISTANCE SPEECH

When a pupil stammers, the instructor should supply the difficult word, if it is evident from the context. If a child is telling the Three Bears story, and says "The mother made some . . . ," it is clear that he intends to say "porridge." The instructor says the word "porridge" and the child says it with him. The instructor then repeats the whole sentence with the child, and afterward allows him to say it alone. The child should never be met with the question "made some what?" Such a challenge emphasizes his predicament and does nothing to break the thought block.

Assistance speech is useful chiefly in reading, for the instructor then knows precisely the words the pupil intends to say. Assistance speech should be positive and assuring, and should carry the pupil well past the obstructing point. If the instructor were to read with the pupil as far as the difficult word, then withdraw his aid, he would increase the pupil's embarrassment and thus weaken his confidence rather than strengthen it.

As the pupil gains in control, the assistance speech can be made less and less conspicuous. If the pupil watches the instructor's lips, the assistance speech can eventually be reduced to mere lip movements. It is desirable to diminish the assistance in this manner, for

the pupil's confidence increases as he becomes less dependent upon the instructor.

SILENT SPEECH

Silent speech is second in value only to the use of signals. Its value lies in the fact that it diminishes spasm of the speech organs, and enables the stammerer to attend to inward speech. When the pupil has learned to discipline verbal thought, he generally builds up silent speech by the addition of voice. Often there is a tendency to add voice too rapidly, the pupil giving the sentence once in phantom speech, then immediately repeating aloud, instead of building the sentence gradually. In this connection, we again call attention to the illustrations given on page 84.

War makes thieves and peace hangs them.
War makes thieves and peace hangs **them.**
War makes thieves and peace **hangs them.**
War makes thieves **and peace hangs them.**
War makes **thieves and peace hangs them.**
War **makes thieves and peace hangs them.**
War makes thieves and peace hangs them.

In this representation the light type denotes silent speech and the heavy type vocal speech. The change is progressive; hence the instructor must check the pupil's tendency to make abrupt transitions early in the speech course.

By common consent the pupil is allowed to give such greetings as "good morning" and "good night" in

silent speech. When he has done this for a few weeks he will often surprise himself by saying the words aloud unintentionally.

Silent speech is invaluable with adults and older children. It is less valuable with kindergarten children, because it is less necessary. Young children establish speech control easily and without recourse to phantom speech.

INFORMALITY

We have spoken much of discipline and drill, and of thoughts that are brought into line and into step. This frequent reference to the control that the pupil exercises upon his mind does not imply that a military atmosphere is to be maintained in the class. On the contrary, the atmosphere should be one of informality and ease, and no circumstance should weaken the stammerer's confidence. The instructor should avoid expressions of haste or annoyance. He should never stare a pupil out of countenance, unless he is attempting to rattle him.

Tense and embarrassing situations are best relieved by short periods of silence and relaxation. A pupil may be completely confused and blocked, and yet be able to proceed if given time to regain composure.

Pupils learn by example as well as precept; hence the instructor's manner should be tranquil. Young children, especially, learn by imitation. In telling a

story sentence by sentence after the instructor, they unconsciously assume his manner of speech and reproduce his pauses. Thus they learn tranquil and measured speech by imitation alone.

BREATHING

The physical manifestations of stammering require little attention, for they usually disappear when verbal thought is disciplined. However it is important at the beginning of the course to see that the pupil takes adequate breath before speaking. There is no occasion to follow any "system" of breathing. Breath can be taken as the pupil chooses —through the mouth or nose, or through the mouth and nose simultaneously; into the upper chest, into the lower chest, or into the upper and lower chest equally. The manner of inspiration is immaterial; it is merely necessary that the pupil take into his lungs sufficient air for physical speech.

RELAXATION

Physical relaxation is helpful to the adult stammerer who displays pressure of activity and contortion. The pupil relaxes in an armchair or on a couch. He is instructed to speak with as little effort as possible—to sigh the words out, to speak as though he were tired or rested, or were going to sleep, or had just awakened.

When a pupil is unable to relax fully he is instructed

to close his eyes, breathe a little deeply, and relax the muscles of the face and hands. As a rule relaxation shortly becomes generalized. The degree of relaxation can be tested by lifting the pupil's arm. The arm should fall limply when released. This is a test sometimes used by anesthetists to determine the degree of relaxation in their patients.

During the early weeks of the speech course, it may be helpful to the agitated and over-reactive stammerer to relax at the beginning of the speech period. Relaxation, however, is of little value with children. It is not in the nature of a schoolboy to relax, and it is not imperative for him to do so. If he has been trained to formulate his thought, he will speak without stammering, in spite of restlessness and wriggling.

Although relaxation is a helpful measure, it is not a practical expedient. No stammerer can relax at a ticket office when a dozen impatient travelers stand behind him, waiting to take their turn. Relaxation is a secondary aid in speech correction, and the instructor should not place great reliance upon it.

EXERCISES EVALUATED

As previously stated, the exercises outlined in this book have no therapeutic value; they merely furnish artificial occasion for speech. When the work of the class is sufficiently advanced, the instructor may avail himself of circumstances that evoke spontaneous

speech. If, for instance, he finds his pupils engaged in conversation when he enters the room, he may join the discussion and sustain it.

In this connection it is not amiss to mention the story of the teacher who called her pupils to the class room when they were watching a circus parade. In accordance with the curriculum they then applied themselves to a class room study of the elephant.

To return to the problems of speech correction: Therapy lies, not in exercises, but in thought training. It must ever be impressed upon the pupil that he is learning to *think* rather than talk, and that the object of the training is to establish control of mental speech.

PRACTICING WORDS

When stammering occurs, emphasis should not be placed on words—the pupil being told, for instance, to say the word "river" over and over again. Practice upon particular words persuades the pupil that the words themselves are difficult, and thus fear-associations are established. Emphasis should be laid, not on words, but on fluency or lack of fluency, and more particularly on the thought control or lack of thought control by which fluency is determined. The pupil must be taught that speaking is merely thinking aloud, and that defective speaking resolves itself into defective thinking.

SLOW SPEECH

Undoubtedly past training has exaggerated the value of slow speaking. Slow speech may be desirable at the beginning of the course, but it is no longer necessary when the pupil has acquired thought control. The important thing is not for the pupil to avoid talking too rapidly, but to avoid talking too soon.

In this connection, the value of pauses is again emphasized. The pause must be long enough to permit the pupil to tranquilize his emotions and formulate his thought.

INSTRUCTION IN THEORY

The adult stammerer should be conversant with the theory of stammering. Children, too, should have explained to them as much theory as they can understand. In the case of children, it is not necessary to give instruction in the form of didactic lectures, but explanations can be made on the basis of situations that develop in the class. Many of the fundamental principles can thus be made clear, even to kindergarten children. For example: Gladys is telling Bobby what to move from the doll's house, and while looking at her shoes says "Bring me the . . ." It can be shown that Gladys did not think before she spoke; that she did not even look at the doll's house to make a selection in her mind. "Thinking before you

speak" can also be demonstrated when the child makes false starts and changes his sentence construction.

CONFERENCES

The instructor should hold private conferences with the older pupils. He should know how they talk at home, and on the playground and in other classes. He should consider their personal problems with them. One pupil rushes headlong into speech without thinking. Another persists in using synonyms, and delays speech by hand-sorting his words. Often these points are brought out more clearly in conference than in the routine of class work.

APPROBATION

Approbation should be given when it is merited. When John is told that he has talked well, his confidence is augmented and his effort is stimulated.

EMULATION

Advantage is taken of the spirit of emulation. A challenge may be issued at the beginning of the period: "Who will talk best today?" "Who can tell a story with thought control?" "John is going to read. Who can rattle him?"

A critic may be appointed from the class to appraise the work. When a pupil finishes speaking, the critic offers his comments: "He didn't think long

enough." "He started twice with the same sentence." "He got rattled himself."

A vote may be taken at the end of the period to decide who has spoken best, or at the end of the week to determine who has made the most progress.

THE PUPIL AS LEADER

When a fair measure of speech control has been acquired, the pupils are permitted to conduct the class from time to time. The leader takes the instructor's chair, assigns the exercises, and directs the work with the castanet. The instructor gives the minimum amount of supervision, and reserves comment as far as possible till the end of the period.

HELP FROM PARENTS

A personal interview is held with the parents when the child enters the speech class. Parents are told that the instruction merely teaches the child what to do, and that success or failure depends upon whether or not be does it. Since the speech period occupies but a small part of the day, much of the responsibility will rest with the home. Parents are asked to attend the speech class at least once a week, and to acquaint themselves with the principles of speech correction. They should also confer with the instructor from time to time concerning their child's individual problems.

Unfortunately, a certain proportion of parents are found to be indifferent. In order that these people may be reached, it is desirable to have a field worker to visit the home. Larger school systems should also issue a monthly bulletin to stimulate interest among parents and to instruct them in the essentials of speech correction.

HELP FROM TEACHERS

Since the child spends a large proportion of his talking hours in school, it is desirable that teachers in other classes learn something of speech correction. A teacher's coöperation is helpful, even if it consists of little more than a sympathetic understanding of the pupil's problems. More substantial assistance can be accorded if the teacher has observed the work of the speech class.

It is also desirable for the speech instructor to visit other class rooms. These visits strengthen the pupil's morale, and at the same time afford the instructor an opportunity of observing the child in an everyday environment.

CHAPTER X

The Parent

No child was ever cured of stammering by the simple expedient of taking lessons. In the class he is merely instructed in the principles of correct thinking and correct talking. He must then apply these principles. The parents should see that he talks correctly at home—that he speaks only when his mind is tranquil, that he pauses long enough to think, and that he uses measured sentences.

The spirit of the speech class should prevail in the home. The clicker should be used in conversation. It should be available at the table. It may be relinquished as thought control increases. It is resumed when carelessness appears.

A stammered sentence should never go unchallenged. On the other hand, there should be no nervous remonstrance, but rather a quiet request to stop or to repeat.

If the mother knows what the child is trying to say, she speaks the words with him and carries him past his difficulty. She then repeats the sentence with him, and afterward requires him to say it by himself.

When stammering is of the type resulting from excitement, it is more likely to occur at home than in

class, hence the mother has the greater opportunity of correcting it. George runs to his mother to tell her that he has just seen a fire engine go down the street, but he is so full of pressure of activity that he cannot say a word. If his mother is familiar with the principles of speech correction, she is able to tranquilize him and direct him in thinking quietly from sentence to sentence.

In rendering the child all available help, parents should not overlook the value of merited praise and reward. Commendation should be forthcoming when the child has done well in difficult situations, and congratulation should be offered on the general progress.

The child should be promised a reward, to be received when he finally overcomes his stammering. The reward should be liberal, and should be something that he greatly covets. The goal of fluent speech is then kept constantly before him. Whatever the cost of the reward, it will be worth the price if it assists in relieving the child of his affliction.

Parents should appreciate the fact that even a young child may be sensitive about a speech defect. On account of this sensitiveness he should be spared unnecessary embarrassment. His stammering should never be discussed before him, especially in the presence of strangers. He should not be made to feel that he is a stammerer or "stutterer," or that he is burdened with an infirmity. At most it might be said in

his presence that he is careless or thoughtless in the matter of speech, but even then he should be given assurance that it lies within his power to remedy the speech defect through his own effort.

The child should be protected against undue excitement and fatigue. When parties, picture shows, and late hours are carried to excess, there is resultant nervous fatigue with increased difficulty in speech. The effect of over-stimulation is seen especially in the speech class, where Monday morning stammering is anticipated almost as a matter of course in the case of children who spend the week-end in strenuous and ceaseless recreation.

Just as the nervous system is impaired by fatigue, so it is benefitted by rest. When long hours of sleep and afternoon naps are made part of the child's routine, control of speech is facilitated.

With an early case of stammering the treatment should consist solely of bed rest and the administration of sedatives. The sedative of choice is Luminal, which should be given in sufficient amounts to make the patient slightly drowsy so that he sleeps through the night and takes a nap or two during the day. Needless to say, this phase of the treatment should be supervised by a physician. While in bed the patient should not receive visitors, and the occasions for talking should be kept at a minimum. In cases where stammering has existed for only a few days or a few weeks, quite striking results are achieved by this

simple therapy of bed rest and isolation, the stammering sometimes disappearing in as short a time as 24 or 48 hours. It is well, of course, for the treatment to be continued for a number of days after the impediment has subsided, for the patient should be thoroughly rested and tranquilized before again meeting the every-day occasions for speech. During the period of bed rest no reference should be made to stammering; if the child's difficulties are mentioned before him, the allusion should be merely to nervousness.

Parents are frequently told that a child will outgrow stammering. This happy issue is seldom attained. Quite often he grows into it, and as times goes on, the thought disturbances become more deeply ingrained in his psychology. Eventually speech terror is developed, and life is made intolerable. It is therefore never advisable to defer the treatment of stammering in the vague expectation that the child will outgrow his difficulty.

If there is no speech class available, the mother should constitute herself the speech teacher, and apply the principles set forth in this book.

If, on the other hand, a class is accessible, the child should be enrolled for speech training as early as possible. The parents should then attend the class and learn to understand the child's difficulties. In this manner they render the maximum assistance. In practice it is found that the parents' willingness to attend the class is the measure of their coöperation.

CHAPTER XI

The Pupil Himself

Stammering is corrected, not by speech training, but by thought training. In reality, no one can control the stammerer's thought but himself; therefore, in the last analysis the pupil accomplishes his own cure.

EMOTION

Thought training requires that attention be given to two things, emotion and mental imagery. When the stammerer keeps his emotion tranquil, he has less difficulty in keeping his visual and verbal thought in order.

Using a figure of speech, one might say that the mind should be as calm as a mill pond. The emotion should be unruffled, like quiet water, and not lashed into spray and foam. Often there is a momentary wave of emotion when the stammerer is first called upon to speak. He should allow this flurry to pass, for he is likely to encounter thought block and confusion is he speaks while still perturbed.

VERBAL THOUGHT

Having tranquilized his feelings, the stammerer must formulate his thought. This means that he

must think words clearly in his mind, in order that he may say them clearly in speech. He must learn to regard speaking as the process of thinking aloud. Taking this point of view, he disregards the lips, tongue, and throat, and attends to the content of his mind.

An analogy may be drawn in this manner: If a gramophone were emitting stammered speech, obviously the impediment would be present on the record. It would be necessary to change the record in order to correct the stammering. The record corresponds to the thought, and it is necessary to correct the thought in order to remedy the speech disturbance.

Another illustration may be drawn from broadcasting. The mind corresponds to the broadcasting station; the speech organs to the receiving set. In speech, the mind broadcasts to the mouth. Speech is reproduced in the manner in which it is broadcast; and in this instance it is the broadcasting that needs attention.

SIGNALS

The clicker checks impetuous beginnings in speech, and thus compels attention to thought. The clicker should be used, both in and out of class, till thought has been properly disciplined.

The clicker can be made inaudible by covering the blade with several layers of adhesive tape, or by placing the thumb over the entire length of the blade.

THOUGHT STOPS

Thought stops are employed in reading, to establish mental barriers, beyond which the attention must not trespass. Through the use of these stops, the pupil soon learns to place mental stops in his reading. He must also learn to plant thought stops in conversation, and he should not begin a sentence till he has planted a mental stop to determine where it will finish.

VISUAL COÖRDINATION

The foregoing paragraph does not imply that every sentence must necessarily be thought out in words. Often a visual survey is all that is necessary. The thought, "Your hat is on the chair in the hall," can be visually circumscribed, and definitely separated from the associated thought, "I saw you place it there when you came in." In the first thought one visualizes a hat lying on a chair; in the second thought one visualizes a man entering the house and laying down his hat. The two visual thoughts should be separate and distinct.

Visual imagery must not run in advance of the verbal thought. If the speaker says, "I am going to the railway station," he should visualize himself on the way to the station, and should not picture himself already boarding the train or alighting at his destination.

When the speaker thus controls his visual thought,

he lays a track, as it were, along which the verbal imagery runs. The verbal thought proceeds smoothly upon the course laid down.

By this careful patterning of thought in visual imagery, one improves motor coördination as well as speech. Movements become more precise when they are visualized in advance. In consequence, hand-stammering and other incoördinate acts are diminished.

THOUGHT BLOCK

Every effort should be made to preserve a moving stream of thought. There must be no fixation of attention by images of printed words or by feelings of speech organs in spasm. Attention must be given, on the contrary, to the *sound* of words. The act of thinking a sound completes the thought; thus by thinking words in succession we keep the stream of thought in motion.

The stream is blocked or dammed when attention becomes focussed upon an immobile thought, such as printed image or a sensation of obstructed articulation.

SILENT SPEECH

Silent speech should not be abandoned prematurely. In the family circle silent speech can be used freely, the necessary time being taken to build up phantom speech by the gradual addition of voice. When the

environment is less favorable, and when the stammerer cannot use silent speech conveniently, he will often find that he can avoid speech difficulty by giving the first word of a sentence in phantom speech movements. This expedient sets the stream of verbal thought in motion, and it is then often possible to repeat the initial word aloud and to follow fluently with the rest of the sentence.

SYNONYMS

The pupil must strive to avoid the use of synonyms. The task will be difficult if synonyms have hitherto afforded an accustomed refuge. Yet it is evident that the search for synonyms leads to confusion of thought, and that confusion is incompatible with fluent speech.

THE GENERAL HEALTH

The pupil must take care of the general health and must avoid physical and nervous fatigue. The stammerer speaks best when he is physically at his best. On the contrary, he speaks poorly when over-wrought or over-tired. Fatigue makes concentration on mental speech difficult; hence fatigue impairs fluency.

CHAPTER XII

CONCLUSION

Much work remains to be done in the field of speech correction. The work is of two kinds: First, research into the cause of stammering and the methods of correcting it; second, application of methods already available, in order that the stammerer may have present relief.

Advance in these two fields will probably proceed independently, for research is primarily a medical problem, while speech training is essentially an educational task.

The few medical men engaged in speech research will from time to time make contributions to our knowledge of the cause of stammering, and occasionally they will improve upon the available methods of speech correction. However, these physicians are too few in number to make their work effective beyond this point. Even if they were to devote their entire time to speech training, it would be impossible for them to assist more than a few individual stammerers among the many thousands that stand in need of help.

The volume of the work, then, must fall to the educator, and it is logical that it should, for speech cor-

rection is a matter of mental training. The schools are strategically situated to deal with the problem of stammering. They can discover the impediment when it begins—or at the very latest, when the child enters school,—and they can apply remedial measures before the mental disturbance becomes ingrained in the child's psychology. Further, the school is in a position to know when the child is cured, and it can require that speech training be continued till this end is achieved.

The privilege and responsibility of speech correction, then, lie with the schools, and it is to be devoutly hoped that educators will give to the problem the earnest consideration that it deserves.

INDEX

Absent audience, 115
Addresses, 112
Adults and high school students, 104–117
Aids for severe stammering, 65, 81, 106, 108
Alphabet games, 100
Amnesia, 44
Anecdotes and riddles, 96, 111
Anesthesia, 18
Animal, fish, or bird game, 99
Aphonia, 19
Approbation, 132, 136
Arm stammering, 35
Articulation, disturbances of, 5, 7
Assistance speech, 125, 135
Association, 23, 47
Association with stammerers, 4
Attention, fixation of, 47, 142
Attention defect, 68
Auditory image, 22, 27
Audience, 115

Bed rest, 137
"Begins with A," 100
Behavior reactions, 25
Bewilderment, 46
Biography, 91, 111
Blindfold, 88, 109, 112
Blindness, hysterical, 18, 19
Bluemel, C. S., "Stammering and Cognate Defects of Speech," ix, 43
Box game, 75
Breathing, disturbances of, 7, 58, 128
Breathing, stammering in, 33
Broadcasting analogy, 140
Bugle, stammering with, 33

Cards for language games, 72
Cardiospasm, 32
Cartoons, 108
Castanet, 53, 64, 67, 70, 80, 83, 85, 86, 99, 103, 120
Causes of stammering, 3
Chain games, 89
Characters, 91, 111
"Child Training," V. M. Hillyer, 77
Class work, 103, 118
Clicker, 55, 66, 70, 80, 86, 92, 98, 103, 123, 135, 140
Combined symptoms in stammering, 9
Concealing stammering, 15
Concept, 28
Concert, reading in, 80, 82, 105, 106

Concert, speaking in, 14, 56, 64, 125
Conclusions, 144–145
Conditioned reflex, 24, 121
Conferences, 132
Consciousness, 17–21
Contortion, 8
Conversation, 76, 95
Correction, principles of, 53–61
Course, length of, 120
Cricket, 55
Cricket-snapper, 55

Deafness, 16
Deafness, hysterical, 18, 19
Decrease in stammering, 14
Defect of attention, 68
Dental brace, 25
Denver Public Schools, x
Description, 93, 111
Dictaphone, 114
Differences and resemblances, 92
Discussion and narrative, 94, 111
Doll's house, 74
Double vision, 19
Doubting, speech, 43
Drill, mental, 53

Ear-mindedness, 27
Early stammering, 137
Ediphone, 114
Educators, 144
Electric shock, 116
Emotion, 24, 139
Emotional memories, 25
Emotional tone, 24
Emulation, 132
Enumeration, 88, 110
Epilepsy, 17
Evaluating exercises, 78, 129
Excitement, 11, 77, 135, 137, 139
Exercises evaluated, 78, 129
Expostulation, 67, 121
Eye-mindedness, 27

Face and head stammering, 35
Fatigue, 137
Fear, 25
Fixation of attention, 47, 142
Fragmented thought, 41
Fright, 3, 47
Frog, 55

Game of telephoning, 72
Games, books on, 77
Games, guessing, 70, 98, 112
Games, language, 71, 110
"Give me a Sentence," 93, 111
Gradation of work, 59
Grade school children, 79–103
Gramophone analogy, 140
Guessing games, 70, 98, 112

Habit drill, 77
"Hand in the Box," 75
Head stammering, 35
Health, 143
Heckling, 76, 102, 112
Hiding and finding, 100
High school students and adults, 104–117

Hillyer, V. M., "Child Training," 77
Hoodwink, 88, 109, 112
Hypodermic injection, 27
Hysteria, 18
Hysteria in breathing, 33
Hysteria in swallowing, 31
Hysteria in walking, 34
Hysterical anesthesia, 18, 19
Hysterical blindness, 18, 19
Hysterical deafness, 18, 19
Hysterical lameness, 19, 34
Hysterical loss of voice, 19
Hysterical paralysis, 18 19, 34, 35

"I am He," 102
"I Give You," 72
"I See," 98
Illness as cause of stammering, 5
Image, auditory, 22, 27
Image, kinesthetic, 23, 28
Image, mental, 22
Image, motor, 23, 28
Image, verbal, 30, 41, 44, 139
Image, visual, 22, 27, 29, 141
Imagery, types of, 27
Imitation, 4, 46
Impediment of thought, 3, 15. See also Recoil
Increase in stammering, 13
Influences that diminish stammering, 14
Influences that increase stammering, 13
Informality, 127
Instruction in theory, 131
Instructor, 118–134
Instruments, stammering with, 36

Jargon speech, 68
Jerking, 35

Kindergarten children, 62–78
Kinesthetic image, 23, 28
Kinesthetic sensation, 21

Lameness, hysterical, 19, 34
Language difficulties, 4
Language games, 71, 110
Lapses, 17
Leader, pupil as, 65, 133
Length of course, 120
Letters, stammering on, 10
Luminal, 137

Manifestations of stammering, 6
Medical research, 144
Mental attitudes, 10
Mental drill, 53
Mental image, 22
Merging situations, 60, 113
"Minister's Cat," 97
Mirror, 117
Mood, 24
Motor image, 23, 28
Moving Game, 74
Moving pictures, 117
Multiple sclerosis, 39

Narrative and discussion, 94, 111

Neurotic temperament, 49
Noah's Ark, 75
Nursery rhymes, reciting, 63, 76
Nursery rhymes, singing, 62

Obliteration of consciousness, 19
Obliteration of thought, 19, 41
Organic disease, 38
Organizing class work, 103
Over-stimulation, 137
Outgrowing stammering, 12, 138

Pairs, reading by, 105
Pairs, speaking by, 65
Paralysis, hysterical, 18, 19, 34, 35
Paralysis agitans, 39
Paraphrasing, 94
Parents, 133, 135–138
Party, game of, 73
Pauses, 66. See also Signals
Phantom speech, 56, 83, 87, 105, 109, 110, 126, 142
Phonograph, 62
Piano, stammering with, 36
Pictures, 69, 85, 105, 108
Principles of speech correction, 53–61
Progression of work, 118
Proverbs, 99
Psychoneuroses, 31–39
Pupil as leader, 65, 133
Pupil himself, 139–143

Questions and answers, 76, 90, 111

Radio analogy, 140
Rattling, 76, 102, 112
Reading, 79, 105
Reciting nursery rhymes, 63, 76
Recoil, 40–50
Records, Victrola, 62
Reflex, conditioned, 24, 121
Relaxation, 57, 128
Repeating after instructor, 65, 87, 109
Research, 144
Resemblances and differences, 92
Respiration, disturbances of, 7, 58, 128
Rest, 137
Reward, 136
Rhymes, reciting, 63, 76
Rhymes, singing, 62
Riddles and anecdotes, 96, 111

Saint Vitus' dance, 39
Schools, 144
Sensation, 21
Sentences, unfinished, 96, 111
Sentences and words, 111
Serial stories, 96, 111
Severe stammering, aids for, 65, 81, 106, 108
Severity, degrees of, 9
Shaking palsy, 39
Shock, 47, 116
Signals, 53, 66, 70, 77, 79, 85, 86, 92, 98, 103, 120, 140
Signals, see also Castanet and Clicker

Silent speech, 56, 83, 87, 105, 109, 110, 126, 142
Singing, 14, 62
Sleep, game of, 68
Slow speech, 58, 131
Snapper, 55
Spasm, 48, 57
Speech, stammering in, 11
Speech aids, 12
Speech doubting, 43
Speech patterned by thought, 40
Speech correction, principles of, 53–61
Speeches, 112
Spontaneity allowed, 68
Spontaneous speech, 59, 87, 105, 109
"Stammering and Cognate Defects of Speech," C. S. Bluemel, ix, 43
Starter, 55
Starters and wedges, 13, 123
Stimulus, substituted, 24
Stops, 60, 64, 79, 141
Store, game of, 71
Stories, 59, 64, 69, 96
Stories, serial, 96, 111
Stream of thought, 21
Substituted stimulus, 24
Swallowing, stammering in, 31
Synonyms, 13, 15, 143

Tea party, 73
Teachers, help from, 134
Telegraph instruments, stammering with, 36
Telegraphic snapper, 55
Telegraphone, 114
Telephone, 14, 72, 113
Theory, instruction in, 131
Thought, impediment of, 3, 15. See also Recoil
Thought, nature of, 17
Thought, stream of, 21
Thought as pattern for speech, 16, 40
Thought block, 45, 142
Thought stops, 60, 64, 79, 141
Tic, 35
Towns, 110
Tranquillity, 50, 54, 55, 139
Twitching, 35
Types of imagery, 27
Typewriter, stammering with, 36

Unassigned causes of stammering, 5
Unfinished sentences, 96, 111
Unison, reading in, 80, 82, 105, 106
Unison, speaking in, 14, 56, 64, 125
"Uses of Things," 91, 110

Variability of stammering, 12, 119
Verbal image, 30, 41, 44, 139
Verbal thought, 139
Victrola, 62
Violin, stammering with, 36
Vision, 19
Visual coördination, 141

Visual image, 22, 27, 29, 141
Vocalizing, disturbances of, 7
Voice, loss of, 19

Walking, stammering in, 34
"What is it?" 101
"What is my Thought Like?" 97, 111
Withdrawing speech, 81, 82, 106, 107
Words, practicing, 130
Words, stammering on, 10, 27
Words and sentences, 93, 111
Work, progression of, 118
Writing, stammering in, 37
Wyneken, 43

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